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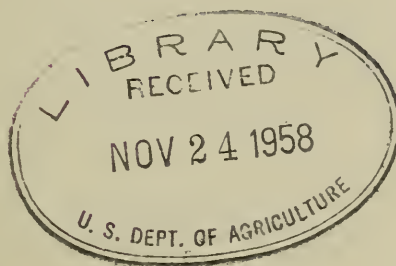
R E P O R T

O F

C O N F E R E N C E O N E X T E N S I O N T R A I N I N G

Cornell University

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CONTENTS

	Page
Objectives of the Conference	V. E. Kivlin 1
Needs of a Changing Agriculture	W. I. Myers 4
Competencies Needed by Extension Workers	J. Paul Leagans 8
Preparation in Economics as an Essential for Extension Personnel	Helen G. Canoyer 21
A Five-Point Program in Extension Education	Einar Ryden 27
Psychological Bridges to Effective Teaching	Marvin D. Glock 38
Characteristics of Good Teaching	Sanford S. Atwood 40
The Case Method of Teaching	E. W. Pope 47
Our Study of Field Experience	Lucy Allen 50
An Appraisal of Our Induction Training Programs - A Panel Discussion	E. J. Kreizinger 52 Lucy Allen F. S. Sloan John T. Stone
Changes in Extension Summer School Programs to Fit Present Day Extension Work	M. C. Bond 57
Cooperation of Staff in Communications Training - A Panel Discussion	K. F. Warner 62 G. P. Summers E. K. Hanks
Membership and Work of a Training Committee ...	Harry A. Cosgriffe 64
Research in the Field of Extension Education	James Duncan 67
Extension Education and the Graduate School ...	John W. McConnell 68
The Role of Course Work in Graduate Study	Donald B. Anderson 76
Criteria for Graduate Courses in Extension Education	Harold Howe 84
Names and Titles of Participants	87

OBJECTIVES OF THE CONFERENCE

by

V. E. Kivlin

Associate Dean, College of Agriculture
University of Wisconsin

Our conference this week is a joint effort of the Senate Committee of the Land-Grant Colleges and State Universities on Preservice and Graduate Training in Extension and the Inservice Training Committee of the Extension Section.

These two committees, in the past few years, have held separate meetings and it was the feeling of the members of both committees that a joint session would be to the advantage of all concerned.

It has been the policy of the Senate Committee to arrange its meetings in different geographical areas each year. The areas have been:

Chicago	1951	Fort Collins	1955
Knoxville	1952	Knoxville	1956
New York	1953	Cornell	1957
Chicago	1954		

I. Preservice and Graduate Training Committee

A. Very early in its existence this committee concerned itself with undergraduate preparation of extension personnel. An undergraduate major in agriculture and one in home economics were prepared, presented, and approved by the Resident Instruction Sections of the AALGCSU in agriculture and home economics. Following approval in the respective section, each division received and adopted.

B. Many of the States have strengthened the training programs through these media. The experience with these new ventures in extension education should be most helpful in the years immediately ahead.

C. Jointly with the Preservice Training Committee a "Planning Guide for an Undergraduate Extension Program for Extension Work" was prepared. Much credit is due to Paul Miller of Michigan State University and to Mrs. Helen Hoefer of Cornell for the publication made available by funds from the Farm Foundation.

D. Graduate training in extension education was the concern of the committee at its Knoxville meeting a year ago. Under the able leadership of Dean Howe, progress has been made in this area and will receive further consideration on our week's program.

By and large the opportunity for graduate education in extension must rest with the Land-Grant Colleges. Not all of them will want to develop this program, but certainly most of them should, particularly at the master's level.

The National Agricultural Extension Center for Advanced Study is and will continue to make its contribution in the field of administration and supervision but this by no means includes all the graduate study needed by extension.

So much for background.

II. Objectives

In our conference this week we should work toward the following objectives:

A. To evaluate our present program in extension education with the idea in mind of finding its weaknesses and developing means of correcting them.

B. By bringing both committees together at this conference we should view our extension education programs "across the board" and if possible work toward one committee which would give leadership to extension education at both the undergraduate and graduate level.

C. There seems to be a need for clarification of terminology used in extension in order that it may be better understood by those in the field of education outside extension.

To illustrate: Preservice and graduate committee
Inservice training committee
Induction training committee
Task force committee
Professional improvement

D. We might well attempt to distinguish what constitutes research as it relates to extension education. Certainly we need to go much deeper than questionnaire studies, or case studies in selected counties, or studies of academic backgrounds of extension workers, or factors for rating county workers, or county agent tenure studies, extension workshop evaluation, or a study of reupholstering in a given number of counties and many, many others.

Perhaps we need to look critically at extension as a means of education and determine where it is and where it wants to go. A great deal of fundamental research needs to be done by extension in this area and each of our Land-Grant Colleges should be at work on the problem.

I am sure that Dean Howe will develop further this point.

E. Extension is primarily a teaching responsibility. To use the slogan of extension, "to help people help themselves," or of 4-H, "to make the best better."

There are many new developments in the field of education at the elementary, the secondary, the college, and the adult education areas. The part of our conference dealing with these areas should give to the participants of the conference principles and procedures which can be applied to extension.

F. With regard to the regional schools, of which there are five in the United States, we need to develop new teachers in many of the areas now offered and to re-evaluate the total program in the light of our experiences thus far. Here, as in the graduate program, we need to probe deeper into the problems of extension education.

G. So, as we work through the week, all of us, I am sure, will carry back to our respective States many suggestions which will mean improvement.

NEEDS OF A CHANGING AGRICULTURE

by

W. I. Myers

Dean, College of Agriculture
Cornell University

Since the passage of the Smith-Lever Act in 1914, we have had four decades of experience in organized extension work. Enormous gains have been made in farm productivity, as well as in the level of living of farm and non-farm families. These advances have been due largely to mechanization, specialization and the application of science. They have been made possible under our system of free competitive enterprise through the use of improved machinery, better feeds, chemicals and credit, and other requisites provided by private business firms. Another important factor has been the effective teamwork between agricultural research, resident teaching and extension.

The Extension Service has greatly shortened the time lag between the discovery of improved methods and their application on farms and in homes. There is mutual stimulation of extension and research which keeps research geared to farm problems.

Over the past 40 years there has been a gradual evolution of the extension program. Increased services to farmers, rural and suburban and city homemakers, as well as to boys and girls in the country, towns, and villages have necessitated increases in staff, funds and services. However, the basic principles of operation of the Extension Service are still unchanged - the primary purpose is still to help people help themselves.

Some of the important changes in agriculture during the past 40 years are:

1. Through the use of better mechanical power, costs and drudgery have been reduced, as well as bringing into use better soil and water conservation practices. Agricultural engineering is a field of great and growing importance.
2. There has been a gradual increase in the size of operation that a farm family can handle. This has resulted in fewer but larger family farms. This trend will continue and there will be greater pressure for efficiency because of the cost-price squeeze. There has been a rapid increase in rural residents who do not farm, but want help with lawns, gardens, etc., and there are many part-time farmers who supplement a small farm with a nonfarm job. As the size of a commercial family farm increases, there are, of course, more financing and management problems. There are also about one-million underemployed, low-income farmers, who either have unproductive land or farms too small to produce an adequate income.

3. The trend towards specialization of farm production continues. Farms are becoming more efficient through the use of specialized equipment, but risks are increasing because of pests and prices. There will have to be more effective teamwork between research and extension to help minimize these risks.
4. The change from self-sufficient to commercial agriculture has meant more buying and selling. An increasing variety of goods and services are purchased by farm families for farm production and family living for greater efficiency or to save labor. These trends have increased the importance of efficient marketing of farm products. Cooperatives are effective pace-setters in buying goods and services and in marketing farm products.
5. Public policies and programs affecting agriculture are of growing interest and importance to farmers. The basic problem of commercial agriculture is selling at prices which fluctuate up and down but having to buy at "sticky" prices - commercial agriculture vs. highly industrialized economy. Fiscal and monetary policies affect general economic stability and are, therefore, vitally important to farmers. Farm programs have advantages and disadvantages, and the educational effort in this area is probably the weakest point in our present extension program.
6. There is an increasing intensity of production. We are obtaining higher yields per acre and per animal and able to feed the growing population with little increase in crop land acreage.
7. A higher percent of the consumer's dollar is going to pay for processing and packaging farm products and for partly prepared foods and complete meals, while a lower percent of the dollar is going to the producer. The important question is, "Is it desirable to have integration of marketing services under farm control through cooperatives?" Our highest interest is to see that quality products reach the consumer at reasonable prices.
8. Our whole rural social organization has changed tremendously during the 40 years of the Extension Service. Transportation and communication have come far. In addition to the fact that there are fewer, but larger farm operations, there is an increase in the number of rural residences.
9. There have been, of course, many changes in the types of farming. Horses have disappeared. The center of population is moving toward the West and South, and their needs for bulky and perishable products, such as fluid milk, fresh eggs and vegetables, will have to be considered. The Southeast will probably grow less cotton but more livestock.

10. The increased use of printed publications, such as bulletins, newspapers, farm press as well as radio and television helps to improve the effectiveness of our extension program.

After briefly reviewing the important changes that have taken place over the last 40 years, let us consider the long-run problems or handicaps of agriculture.

1. There will be a continued migration of workers from farms to city, and this is necessary as fewer people are needed to handle farms. However, we must do what we can to minimize the differential between the economic opportunities in farming and other occupations, and to educate better the rural youth for nonfarm jobs.
2. Frequently there is a loss of capital on the part of those who remain on farm because the children who move to cities share equally in their parents' estate with those who remain on the farm. However, through father and son arrangements, this handicap can be minimized. Financing larger, well equipped farms is a major problem.

Extension has shortened the time lag between the discovery and use of new methods, machinery, etc., but progress is still slow in many cases. It is necessary to help farmers keep in closer adjustment to the changing conditions, such as improved practices of growing crops and livestock, conservation, weather, financial resources.

Up to now, the family farm has met successfully the challenge of corporate farms. The number of hired farm workers has been declining steadily.

Recently there has been integration of some production and marketing functions by commercial corporations. The broiler business is being dominated by feed companies making the farmer a piece worker. This makes it less risky for the farmer but gives him less freedom, and he is no longer a self-employed operator. This is also being extended to other types of farming. We cannot meet competition successfully by loud talk.

Whether or not we can help the independent farm family meet this competition will depend largely on the effectiveness of research and extension and their teamwork. There are continuing rapid changes as far ahead as we can see - economic, social and technological changes. We can help farm families help themselves to keep in adjustment through better trained extension workers, carefully planned programs, and doing a better job in weak areas, such as marketing, public policies, farm management, and rural sociology. The standards of academic training for extension workers should be as high as for research and teaching.

1. County agents should have at least a master's degree with specialized training to help them do the job. Extension specialists should be as

well trained as professors in research and teaching. This cannot be done all at once, but we should stimulate young agents and help them financially if possible. County agents should be brought up at least to the level of training required for vocational agricultural teachers.

2. We need more adequate programs for inservice training. Two- and three-day schools in important fields are necessary, but there should be more use of the three-week summer schools to broaden training.
3. We should encourage regular sabbatic leaves - preferably for one year - so as to give agents a chance for sustained study. Shorter periods of time result in too slow progress in obtaining advanced degrees. It is important to broaden the use of federal grant funds to stimulate interest in getting additional training.
4. Eventually I hope a larger number of county agents will have a doctor's degree as well as all extension administrators. Salary schedules must be adjusted to justify good men in getting the best possible training for their jobs. Fellowships and other financial aids should be made available, recognizing the special problems and costs of additional training for county agents.

COMPETENCIES NEEDED BY EXTENSION WORKERS

by

J. Paul Leagans

Professor of Extension Education

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Trying to suggest to a group of fellow instructors in extension education the kind of competencies they should develop in their trainees may well be classified as a hazardous undertaking. The great importance, however, of identifying with some degree of preciseness the character of the product we are trying to produce in our training programs, we cannot overlook. Indeed, this task lies at the core of any attempt to change people educationally. It is in fact the first essential step in the educational process. The essence of this task is the essence of deciding on objectives of training activity.

What is known today about the teaching-learning process all points to the necessity of identifying the competencies to be developed in the learners as a necessary condition for effective training. Without this how does one know, for example, what kind of subject matter to use, what kind of teaching procedures and techniques of communication to use, or how much time and effort to allocate to the task. When one examines the nature of recognized professional groups, it is discovered that a prime condition is clarity of competencies expected, and, also, standards for these. For evidence, one needs only to examine such professions as: medicine, law, formal education, and that of others like carpenters, plumbers, and airplane pilots. In the training of each of these groups, the competencies aimed at are clearly identified and there are usually at least minimum standards for competencies required for professional practice.

We in extension have had standards, too, and are constantly striving to establish more appropriate ones. Progress in this direction is limited only by our ability to recruit able people, identify the competencies needed, and provide appropriate training. So it is the mark of a growing profession to give thought to this problem.

Before going further, let me indicate something of the meaning of the term "competency." Competency means fitness for the necessities of the job. It means ability adequate to meet all requirements of the professional assignment. It means the ability to perform effectively all the current professional tasks appropriate to the position held. Unfortunately, men and women are not born with wisdom, maturity, professional skill and a sense of responsibility. These patterns of behavior must be learned. Thus the task of getting competent extension workers is, essentially, an educational one. Therein lies the challenge before this

group. The great difference in people is what they are able to do with things and with each other.

EXTENSION CONCEPTS

The entire theory and practice of extension education, as currently conceived, appears to hinge on ten central or normative concepts. These I have attempted to state rather precisely. They have basic implications for the kind of competencies extension workers need.

1. The supreme and central function of extension education is to promote the development of people economically, socially, and aesthetically by means of education.
2. The Extension Service must be understood, conducted, and judged as an educational instrument.
3. The Extension Service must be operated in close, continuous, mutual relationship with the people it serves.
4. The Extension Service must be organized to provide educational services for large numbers of people who need them; responding to their needs without restriction.
5. The Extension Service must seek to achieve its purposes by initiating, stimulating and guiding the process of education.
6. The Extension Service program must be oriented and organized to deal with the daily practical problems of people.
7. The essential purpose of extension teaching is to facilitate a grasp of the meaning of knowledge among people and to help them see its connectivity to their problems.
8. The Extension Service must be an institution in which those whom it serves experience success.
9. The county extension staff occupies the central position in the organization and conduct of extension work.
10. The program of training for extension workers should be designed to develop specialists and also generalists who are effective educators.

It has been on the basis of such fundamental propositions as these that I have tried to think about this topic. As I understand our assignment here this morning, it is to examine likely answers to the central question: What are the professional competencies needed by extension workers?

Before giving you my suggestions let me lay down a few ground rules to further orient my comments. The suggestions I am about to pose are not intended as the answer to this very basic question. They are intended only as suggestions that may have some validity. They are not intended to be all-inclusive, but rather to represent some minimum key points where competency is apparently needed by extension workers. So I doubt that I will provide many answers. I hope, however, that my statements will provide some useful leads and will stimulate further thinking and discussion about the topic.

There are eleven kinds of competency I now want to mention and to elaborate on briefly. Please keep in mind that these items are not intended to be all-inclusive, or of equal importance. They simply represent a synthesis of a wide range of literature related to extension work and my own twenty years of study and experience in extension.

1. Understanding of the Role of Extension Service and How it Operates as a Public Educational Institution. This includes such items as:

Knowledge of the development and present scope of the Extension Service.

Understanding extension objectives.

Philosophy of extension work.

Organization and administration of federal, State and county extension work.

The responsibility, opportunity, and function of Extension Service as a publically supported, educational institution.

Adequate competency in this area seems clearly fundamental to effectiveness and leadership in extension. Knowing about one's professional affiliation is usually considered to be a primary "tool of the trade." Without such knowledge, one cannot thoroughly understand his job, intelligently defend his profession, or suggest action to improve it. Professional leadership in extension, then, appears to require this kind of competency of all extension workers.

2. Skill in Human Relations

This is necessary in all contacts with people and especially with:

Our clientele	Supervisors
Local leaders	Specialists
Co-workers	Administrators
Others who directly affect the extension operation, or are affected by it.	

It has been said often that our most difficult problems in the world today have their roots in poor human relations. Research in this area has gradually uncovered evidence that a major factor influencing personnel performance is the way an employee feels and acts toward his organization and the people he is working with. Acting on this significant cue, ratings of success on the job put at the top of the list the ability to get along well with people. We are told that man is not born a social being. These behaviors have to be learned. Fortunately, they can be taught. Human judgment is fallible and mistakes will always be made. But many errors in relations among people can be avoided if some fundamentals of the subject are understood. Wise leaders currently are cautioning us against allowing our technical know-how to move too far ahead of our skill at human relations. Extension administrators frequently say that lack of technical competency rarely is the cause of failure among extension workers. Failure usually is related to inability to get along with people.

3. Knowledge and Understanding of Technical Subject Matter Appropriate to One's Job.

This requires:

Thoroughness of knowledge.

Acquaintance with current material.

Knowledge of reliable sources of knowledge.

Understanding of how subject matter relates to specific problems of people.

All successful educational efforts require significant technical subject matter or content appropriate to the problem. Subject matter is to education what food is to the human being. It is life's sustenance. Subject matter has been stressed from the beginning in the training of extension workers. It must continuously be stressed. Without question, it is fundamental. Attempt to teach something one does not know is to invite failure from the start. Our basic legislation states specifically that extension's job is to "aid in diffusing...." If we are to "aid in diffusing" we must know what to diffuse. Hence, extension workers must have not only an adequate knowledge of appropriate technology, but also an understanding of it and its relationship to the problems of people. I think this point needs no further elaboration.

4. Ability to Plan.

Ability to plan requires:

Understanding of the nature and function of planning.

Identification of problems or needs.

Getting facts about them.

Analyzing and interpreting facts.

Deciding on significant objectives.

Formulating courses of action to obtain objectives.

Abe Lincoln once said, "If we could but know where we are now, and where we ought to go, we could better judge what to do and how to do it." The need for planning is found in the complexity and the importance of the job to be done. In this day of rapid scientific progress, setting the conditions for exposing people to ideas that are useful for them to learn about cannot be simple. The use of planning is to discover and prepare the way for action that needs to be taken. It is a necessary aspect of any activity in which the situation is too involved to be disposed of off hand.

Planning is primarily an intellectual activity, for it usually involves a study and use of facts, and often of principles. Usually it will require knowledge, imagination and reasoning. Often it requires a mastery of special skills and techniques of research. One does not get a good extension program just by wishing for it. Planning does not go on in a vacuum, nor automatically. In essence, planning is a process of making decisions. These are usually best when the people affected participate in the decision making.

Two sets of opposing attitudes toward planning appear to exist among extension people around the country. One group views planning as: a burden, paper work, a necessary evil, something the administration requires. This group views planning as something to do as little of as possible and "get on with the work." Such a position raises the question: what work - and toward what ends? This attitude is a little like that of the sea captain who was too busy steering his ship to bother about charting his course. Admittedly, shoals may lie ahead in either instance, but care in charting our course may help avoid some of them. The second group views planning as a necessary step in carrying on an effective, ongoing extension enterprise - a process that enables one to keep his work tuned in with new knowledge, new problems, new situations, basic needs of people, and with progress itself. Good plans are to the extension worker what the compass is to the seaman.

5. Ability to Clarify Objectives and State Them So They Are Useful in Guiding Extension Activity.

This includes such items as:

The nature of "purpose."

Understanding the role of objectives in educational activity.

Knowledge of sources of objectives.

Knowledge of levels and interrelation of objectives.

How to state and use objectives in guiding educational activity.

It has been wisely said that, "To him who knows not the port to which he is bound, no wind can be favorable." One of the frequent criticisms of extension has been the fussiness with which we view our objectives. Too often our statements of objectives at all levels can be properly characterized as "glittering generalities." In this form they are not very helpful in guiding the educational enterprise. The importance of clarity of purposes or objectives for extension activity is found in two major truths:

- a. The subject matter and method necessary to attain educational ends can be intelligently selected only when the objectives are clear and specific.
- b. Evidence of the effectiveness of extension activities can be collected only in the light of specific and clearly defined objectives.

It is probable that all extension activities have purpose. No program is completely aimless. But it is important to identify specifically just what the purpose is, and what its importance is. This clarity will improve the preciseness with which activity is carried on. It was said of Louis XVI of France that he always meant well, but seldom knew very well what he meant. Possibly the most significant need for clear objectives is found in the fact that effective extension work results from choice, not from chance. Effective extension work is a result of design, not drift - of a plan, not of trial and error. Effective extension work is an intentional process, carefully designed to attain specific, predetermined ends. The "shotgun" approach in extension has never been very effective and is becoming less so. We must now use a "rifle." We must identify our "targets," shoot straight at them, and hit them with all the force in our ammunition. One of the important characteristics of the twentieth century is its requirement of decisiveness in action.

6. Ability to Organize People and Things.

This requires understanding of:

The nature and function of organization, principles of organization, techniques of organization, coordination, and integration.

The principle is now well established that the need for organization increases in direct ratio to growth in the size and complexity of the agency and the tasks to be performed in attaining its purposes. Organization is properly viewed as an arrangement of relationships of persons or things necessary for the effective performance of functions. Facts and ideas may be organized for the use of one person or for many to use. We organize people for joint activity. We organize materials and facts either for the common use or for use of any one person.

Thinking is essentially a process of organizing facts and ideas with a view to action. In all cases, organization has its origin in the work to be done. So the term "organization" is used to refer to any collection of persons, materials, procedures, ideas or facts so arranged and ordered that, in each case, the parts make a meaningful whole. Good organization, then, is that which groups activities, materials, or persons so as to get the best performance with the least effort. The act of organizing requires attention to at least two definite and well established principles:

Principle of Coordination. Coordination means to make harmonious adjustment - to give things and actions their proper perspective - to unify designated efforts into an integrated part. Coordination is necessary in carrying out practically any job or assignment. Consequently, it becomes the essence of any effective organization of one's efforts. There must be coordination in all major extension functions, including administrative, supervisory, programming, program execution, and appraisal of accomplishments.

Principle of Procedure Analysis. Procedure is a way of arranging sequences of operations necessary for effective action. Certain definite elements must always be considered and employed in both the preparation and evaluation of procedures. Important facts upon which the success of the procedure rests must be discovered, selected and clarified. These are the facts which are of such outstanding importance that they must be given prime consideration in the design of procedures. We hammer away at good farming and homemaking practices, but we realize the importance of incorporating these practices into a well organized, well managed, ongoing family-farm enterprise. Organization ability is a high level skill. It is much sought after by employers, especially in personnel, to fill top level positions.

7. Skill at Communication.

This involves at the primary level facility in speaking, writing, visualization, doing, and other ways of helping people gain ideas. Communication has to do with the way people get ideas. There is a growing awareness of the need for better communication. Good communication is the essence of good extension teaching. It is one thing to get information to people; it is quite another to be certain the information is accepted, understood, and acted upon, not just received. Our success at influencing people is limited only by:

- a. Our ability to select significant subject matter in line with the interests and needs of people, and
- b. Our ability to communicate it to them effectively.

The essence of learning is the gaining of meanings of new ideas in relation to recognized problems. It is now fairly well established that the basic means of communication is words, but supported often with other forms of symbols that also communicate, such as the many forms of visual aids. In addition to words and other symbols, we in extension emphasize doing as a way of helping people gain meanings. Effectiveness in extension education, therefore, is determined largely by our skill at manipulating words and other appropriate symbols.

Our problems in communications usually stem from such things as:

- The language we use.
- The general meaning of words.
- Being specific.
- Helping people understand facts and see their significance in the proper framework.

It is easy to control what our communications say but it is difficult to control what our audience gets and concludes from them. Ways must be found to overcome barriers to the successful sharing of thoughts between extension workers and the people with whom they work.

8. Skill at Seeing the Relation of Principle and Practice.

This involves understanding of the nature and role of principles in the education process, the nature and role of technique, and the inseparable interdependence of the two.

Theory and practice always have a relationship. One may understand the structure of theory and be unable to apply it in practice. On the other hand, one might be able to use technique skillfully but be superficial in his efforts because he does not understand how the

technique relates to the whole process of extension education or to the broader aspects of the activity he is performing. The effective extension worker is neither the abstract thinker nor the accomplished user of "tricks." He is both. He must understand the principles lying behind his technique in order to make technique most effective.

The importance of principles stems from the fact that they are general rules or well established truths that usually have wide application. They serve as highly useful guides in a wide range of situations. Principles relate to why; techniques to how. An understanding of principles helps extension workers to recognize the difference in situations. With this understanding, one is less likely to employ technique just because he has used it before, and more likely to recognize the need for new technique, or for variations in those he has used before.

Extension workers equipped with an understanding of principles applicable to their work are more likely to be creative than those who pride themselves on just being "practical." Extension people sometimes appear to misinterpret the meaning of the term "practical." They imply that to be practical something must be "simple," "primer-like," "easy to do," "not complicated." The basic meaning of the term "practical" really suggests that whatever works well in the situation, regardless of its complexity, is practical. Principles give meaning to technique. They are necessary for a valid appraisal of technique. One who glorifies technique, or how, without trying to understand the principles related to it, or the why of his technique, is really a captive of technique. An understanding of principles related to techniques, and skill with techniques, is the height of professional competency. It has been wisely said that the person who knows how will always have a job, but the one who knows how and also why will eventually supervise the person who only knows how.

9. Skill at Inquiry.

This requires ability to:

identify problems, discover focal points, determine alternative solutions, evaluate alternative solutions, and to make decisions about them.

Without this competency extension workers cannot effectively help people analyze their own problems. Skill at inquiry is basic to guidance or counselling. We so often say in extension that our central purpose is to "help people learn how to solve their own problems." Unless extension workers are skillful at inquiry they cannot help people effectively to discover their problems and work out effective solutions to them. Without this skill, the situation is one of the

blind leading the blind or attempting to lead those who may have excellent sight, which may be more disastrous.

The process of inquiry consists of four primary steps.

A. Identifying the difficulty, or problem, or need.

Every inquiry begins with a specific problem - with a difficulty - which causes people to feel that something ought to be done. Whenever some aspect of the situation causes people to be disturbed or upset there is a need for inquiry, community-wide, family-wide, or confined to an individual. Extension workers should be skillful in the discovery of these feelings of dissatisfaction in order to focus further analyses on special aspects of the situation in which lies the specific concern.

B. Discovering the focal point of trouble.

This step requires getting facts which will pinpoint the real nature of the problem, its scope, its importance. This process usually entails careful scrutiny of attitudes, beliefs, values, habits, prejudices, and the like, in addition to the body of information usually called facts.

C. Determining possible ways to solve the problem.

In this step, ideas about plans of action must be developed. It is at this point where many extension workers fail to supply real leadership. It is relatively easy for the extension worker to "supply the solution," and a vastly more difficult one to fashion a truly joint decision.

D. Evaluating the alternative plans of action.

This step includes ability to project the probable consequences of each suggested action if it were taken. It involves determining the probable value of each idea. It involves a decision about which kind of action is most likely to succeed.

10. Ability to Provide Learning Experiences or to Teach.

This involves at the minimum level:

An understanding of the principles of learning and teaching; skill in arranging situations in which effective learning is promoted; and knowledge of appropriate subject matter.

Extension teaching, commonly referred to as program execution, is properly viewed as the process of arranging situations in which the important things to be learned are called to the attention of the prospective learner, his interest developed, desire aroused, and action promoted. The essential function, then, of the extension worker or lay leader in his effort to promote learning among others is that of creating situations that:

- a. Provide people with an opportunity to learn.
- b. Stimulate mental and physical activity among potential learners which produces the desired learning.

This task is accomplished through skillful use of extension teaching methods in ways that sound principles of teaching and learning are applied.

Extension is dedicated to helping people put knowledge to work for them. This requires good teaching. Good teaching requires that we:

Help people gain new knowledge.

Help them see the value of applying the new knowledge.

Help them see the connectivity of the new knowledge to their problem as they see it.

Help people gain the skill necessary to properly apply the new knowledge.

Knowledge alone is usually not enough to stimulate desired action. Diffusing subject matter facts is a relatively easy task. Getting people to understand, accept and apply them is the difficult one. It is at this point that extension teaching presents its greatest challenge. It is at this point that the "good" extension worker is separated from the "less good." It is at this point that the true art of teaching must emerge. Fortunately, good teaching skill can be learned.

11. Ability to Evaluate.

This involves knowledge and skill necessary to:

Clarify evaluative criteria; collect, analyze, and interpret facts that show the present situation; compare the actual with the desired or anticipated progress; and to draw proper conclusions.

With the expansion and growing complexity of the extension program has come an increasing need for method. By method I mean knowing what we are doing, why we are doing it that way, what the outcomes are, and how the program can be improved. By method is meant, in short, operation on the basis of facts rather than of opinions; of knowing versus guessing. The time may be now when opinions and judgments without a fairly scientific basis are not sufficient justification for educational endeavors as important as those of extension today.

Man in his search for truth over the centuries has appealed, in general, to five major sources of evidence, namely custom and tradition, authority, personal experience, reasoning from apparently self evident facts and scientific inquiry. These five sources of evidence represent a rough chronological sequence in the history of human thinking. These methods of seeking truth constitute man's current intellectual equipment for solving the mysteries of life and nature.

On what basis do extension workers arrive at facts about programs, teaching, progress, and ways to improve their effort? With the growing complexity of our work, we are placing greater emphasis on the last mentioned method, that of scientific inquiry. This is so because the others have not seemed adequate. Evaluation is a form of scientific inquiry. It is an effort to place a true value on the "goodness" or "badness" of our activity. It is probable that the greatest discovery ever made in human thinking is that the way to find out if something exists is to "look and see." In essence, evaluation is a process by which one looks to see by using valid and reliable methods. Evaluation, then, is a means for identifying what is actually happening as a result of our efforts.

The basic significance of evaluation lies in the fact that it is useful to us in guiding our programs and teaching efforts. Evaluation, therefore, is really an integral part of any effective educational undertaking.

CONCLUDING STATEMENT

In conclusion, I would like to pose the following thoughts:

1. We are experiencing a period in which standards for professional proficiency are constantly rising in all fields of endeavor.
2. An important characteristic of the twentieth century is its requirement of decisiveness in action.

3. It seems clear now that extension is dealing with a dynamic parade, not with a congregation.
4. Each of us knows that the quality of extension education, like that in any profession, can never exceed the professional quality of the people who carry it on.
5. Extension personnel with competencies adequate to perform effectively the current professional tasks is our best assurance against becoming lost in the passing parade of progress.
6. We in extension, therefore, must constantly seek to further clarify the professional competencies needed and to attain them as rapidly and as completely as practicable.

PREPARATION IN ECONOMICS AS AN ESSENTIAL FOR EXTENSION PERSONNEL

by

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I deeply appreciate the invitation to not only meet with this influential group, but to talk to you about why I believe that preparation in economics is an essential for extension personnel. It is because I believe that preparation in economics is essential to being an intelligent citizen that I believe it is particularly essential for extension personnel. I shall try to explain the basis for this belief.

While I was thinking about what I would say to you today, I received a copy of an address by Professor Ben W. Lewis of Oberlin College which was given at the annual conference of the American Economics Association last December 1956. The title of Professor Lewis' paper was, "Economic Understanding: Why and What." Actually he says, very much better than I can, precisely what I want to say to you today. I shall, therefore, quote rather liberally from his paper as well as restate much of what he said to the Economics Association.

Of all the pressing problems of our time, perhaps the most important, both for the individual and society, is that of governing ourselves wisely. Democracy can work only when its citizens are capable of intelligently exercising their duties under the guidance of competent leadership. We will be more intelligent, more effective and happier citizens, and have more competent leaders, if we and those whom we ask to lead us understand and appreciate the economic principles which, inescapably, operate in this and other nations.

Actually, an efficient democratic government depends on economic understanding of the people. I believe that Americans still define democracy as government by the people. But today, as perhaps never before in the history of our country (and even the world), government has to do largely with economics. Oh yes, there are political and other factors involved, but no one who examines the range of matters with which today's governments have to deal will question that these matters are economic in substance and effect. This is true at all levels of government, and decisions affect our own businesses and our own homes. Here are some illustrations of government matters: money, credit, tariffs, quotas, parity, foreign aid, monopoly, fair trade, commodity marketing agreements, farm support, inflation, trading stamps, management-labor relations, distribution of income, public debt, installment credit and taxes - yes, and closing Post Offices on Saturday. As Professor Lewis wisely stated, "The relationship between government and economics is reciprocal."

Moreover, the simple business of living in the United States today calls, to a greater and greater extent, upon the average person to participate actively with others in the gigantic undertaking of collective governmental decision making on a large number of complex economic problems and issues. These persons must have economic understanding. Why? Because the stakes are the survival of democracy and human freedom. We know that freedom is lost if democracy dies and democracy cannot live beyond the day when it fails to discharge the political-economic tasks which it must perform. We must not forget that democracy is government of and by the people, and the capacity of the people will set the level of democracy's performance.

"Freedom and democracy are abstract concepts, but the matter of their preservation is concrete and immediate. This is our democracy, and we are 'the people' on whose economic understanding and economic sense the outcome of our venture in self-government rests."^{1/}

Today I am not speaking about the need of each individual in this highly specialized and interdependent economy of ours for knowledge and skills which will improve their buying and selling of goods and services. I am not talking about the importance of the individual to know what to look for in buying products, to understand the margin between what the producer sells his product for and what the consumer buys it for. To be sure, I believe that it is necessary that persons know about credit facilities and practices, installment buying, insurance, tax forms, budgeting, etc., in order to be intelligent producers and consumers of goods and services. I talk about the need for such education a lot. But such information should not be accepted as economics. Of course such information may, and probably will, come to a person as a by-product of a study of economics. But a person may be well informed about such matters and be woefully lacking in economic understanding.

Now what am I talking about when I talk about economic understanding? Let me quote again from Professor Lewis. "Economic understanding is to be gained through an understanding of the central core of economics that dominates all economic situations and issues - the economic problem faced by all societies of men who live and make their living together. We have economic systems because we are confronted by The Economic Problem. Economies, all economies, irrespective of characteristics or quality, are fashioned, molded, and maintained solely because this problem exists. To understand The Economic Problem is to know the purposes and functions of economic systems, and thus to have a clear, unmistakable point of

^{1/} "Economic Understanding: Why and What," an address by Ben Lewis, Joint Council on Economic Education, P. 2.

reference, a firm base, from which to proceed in considering any and all questions of economic public policy.

"The Economic Problem is simply, 'What dispositions shall society make of its limited human and natural resources in light of the unlimited needs and desires which these resources can be used to satisfy?' This is the most important concept in economics, whether regard be had for economics as a formal study or for what it has to contribute at the school level to general education."

The central core of economics which Professor Lewis calls "The Economic Problem" results from two conditions:

1. Man's unlimited desire for goods.
2. The limited human and natural resources available to society for production of those goods.

Now let me elaborate on these two conditions briefly. Mankind has unlimited desires for goods. Each one of us wants at least a minimum of material goods and services to satisfy basic needs such as food, shelter, clothing, etc. But in addition, each of us wants much more - we want more and more varieties of all things, as well as more of each thing. The fact is that if each one of us did not have to live within some kind of money limitation, our individual desires and wants would run on almost endlessly. Added all together, then, such almost unlimited desires, multiplied in volume by the number of persons who live in the world today, go far beyond anything any society can dream of actually satisfying from its limited resources.

The supply of human and natural resources which are available for the production of goods and services demanded by society is limited. Those goods and services needed to satisfy the gargantuan demand of the world's population must be produced. But production requires the use of human resources, labor, and natural resources; that is, land, water, minerals, etc., together with techniques and methods of organizing and processing these resources. Basically the supply of these resources is scarce relative to the demand for them. Despite the great advances in technology and despite the fact that the supply of goods and services produced and consumed has, on the average, risen markedly over the centuries, we can never produce enough goods and services to provide everyone in the world with all that is desired and have something left over for reserve.

We must make, therefore, careful use of our resources; we must be concerned about their "management" - in other words, we must "economize" them. Because they are limited in supply relative to the uses to which we should like to put them (i.e., they are "scarce" in the economic sense), it makes a lot of difference to us how they are used. Of

necessity, a basic concern of all societies has been and must continue to be the degree and manner and direction of the use of human and natural resources and the disposition of the products. This is what economics as a social science is about.

Presumably any society will want its scarce resources to be "fully" employed (particularly its labor), and so used that their power to produce is great and expanding. Any society will want the "right" goods produced in the "right" amounts and by using the "best" combinations of resources. Any society will want the goods produced from the scarce resources divided fairly among its people.

But the terms "fully," "right," "best," and "fairly" mean that there is no one definition or answer which will hold true under changing conditions. In other words, society is faced with the never-ending problem of making decisions as to the management of its resources. For example, a government policy of full employment may have the effect of making production less efficient, and increasing the amount of leisure time of the employed. Such a policy would have repercussions of tremendous scope and magnitude affecting most of us, but in different ways at different times. However, if we want to live together peaceably where not everyone can have all he wants and where, therefore, resources must be economized, then we must decide how to best balance demand against supply. 1/

My argument so far is that each citizen in a democracy must have economic understanding because today's government is largely concerned with decisions of an economic nature. Ideally that economic understanding would be given by the schools, and because a large proportion of high school graduates do not go on to college, economics should be taught at the high school level. Although there has been progress in the quantity and quality of economics taught in high schools in the past ten years, it is tragically inadequate. Extensioners are teachers. Moreover, extension personnel are in a unique position to raise the level of economic understanding of those people with whom they work. But you cannot teach economics unless you first study it.

When I was asked to talk to you on this subject today, I was reminded of the discussion which we had during Land-Grant meeting last fall in a home economics section meeting. In a survey which one of the colleges of home economics in the midwest made of its alumnae, it was found that students felt that economics courses were uninteresting and too difficult. Home economics students are not the only ones who react this way.

1/ Material in above six paragraphs is restatement of Professor Lewis' material.

One asks the question, therefore, "Why don't students take economics and why do they often find economics courses very difficult and uninteresting?" Of course, no one really knows the one answer, but Professor Lewis and others working in this field have been trying to get the answer for the past five or six years. These are the major criticisms:

First. Economics as it is taught in the colleges is too abstract and involved. Textbook writers and professors are so bent on making an exact science of their subject that they insulate it from all reality by the employment of artificial assumptions and create unreal situations, leaving the student behind.

Second. Economics as it is taught, the critics hold, is dull, and this despite the fact that, as a subject, it abounds with exciting problems and issues. We economists, it is said, go out of our way to make the subject dull to the nonprofessional. Our insistence upon methodical and logical analysis, our dependence on meticulous reasoning and cautious steps, rather than upon electric insight and spectacular leaps, have the effect of extracting from the subject all of its life and vigor. We beat it to death. There is no reason at all why economics should not sparkle, whereas most of the time it is, I think we must admit, drab.

Third. Moreover, we load too much into the course. Students are forced to take great gulps of economics. We impress on the student the magnitude of the subject by many different methods. I think there is no question but what we have discouraged students, especially those students who have elected economics, from studying any more economics.

What I am saying, then, is that to date, what is being taught in the secondary schools and high schools in the field of economics is pitifully little and very poor quality. Also, that in colleges and universities, economics courses are not elected by those not majoring in economics. That economists have been largely at fault in the way they handled their subjects and in the attitude which they have taken toward teaching the subject. This means, then, that for the people who have not had any economics, you extension people have a tremendous responsibility for improving economic understanding.

There is a tremendous awakening on the part of lay people, business concerns, foundations, as well as educators, of the need for offering good quality and interesting basic economics in high school as well as at the college level. Economists are going to be forced, if for no other reason, to come to grips with the training of high school teachers and

those not interested in majoring in economics. It won't be long, therefore, before the average person who goes through high school will have some economic understanding and then it will be even more necessary for extension personnel to have at least an equal amount of economic understanding, but preferably more if they are going to be helpful. Economics is a vital and interesting subject. Extension people can do a great deal toward removing the block which exists in people's minds toward economics. It can be made interesting, and you are uniquely qualified to make it interesting. But more than that, extension personnel must be qualified to improve the economic understanding of the citizens with whom they work in order that our democratic form of government will survive.

A FIVE-POINT PROGRAM IN EXTENSION EDUCATION

by

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I want you to know that I appreciate the opportunity of being here at this Extension Training Conference. I am especially pleased that Cornell should be the host. I have never visited this campus and have often wondered if the University could possibly be as alluring as I have been led to believe by that famous school song, a favorite of mine.

You might be interested to know specifically what we are doing at Purdue in our very young training program. We began by introducing the State staff to some of the features of the NPAC project in a ninety-minute session. This was followed up by a series of two-day workshops for all extension people. In these workshops, we stressed basic communications, two-way communications and efficient communications. We built a half-day program around the film "Production 5118" and found this to be very effective. Two-way communications was introduced by the use of two abstract designs with the members working in pairs. One person was to instruct the other to reproduce an abstract design he had never seen and the instruction was to be one-hundred percent verbal. This activity led into discussion of such matters as definition of words, frame of reference, and indeed the basic principles of communications. We concluded the section on two-way communications by use of the film "Missed Signals" and employed for discussion such techniques as circular response, role playing and buzz groups. The section on efficient communications dealt largely with channels of communications. Perhaps the most valuable part of this discussion on channels was the apparent success of farm papers in reaching their audience and what can extension do to compete, challenge, improve, change, and consequently do a better job.

At the conclusion of the first phase of the communications workshops, an evaluation sheet was completed by the participants. One of the questions was: In what areas would you like help in order to improve your own communications? The purpose of this question was to get an initial idea of what extension workers felt they needed in order to do a better job. In a nut shell, they asked for everything! I have never in all my life seen such hungry people.

In tallying the results, they can be grouped roughly as follows:

Total Number Reporting - 220

1. Written Communications (110)
 - a. Writing news stories, letters, circulars, etc.
2. Oral Communications (103)
 - a. Public speaking, TV, radio
3. Learning, group process, social action (100)
 - a. Methods that motivate people
 - b. Personal salesmanship
 - c. Group leadership
 - d. Public relations
 - e. How to understand behavior
 - f. How do we learn
 - g. Interviewing
 - h. Meetings, etc.
4. Visual Communications (35)
 - a. Preparing and using effective visual aids
 - b. Demonstration
 - c. Making "props" available
5. Planning a complete communications program (25)
 - a. Program planning plus all of the above
6. Evaluation (22)
 - a. Evaluation of a county program
 - b. Evaluation in general communications
 - c. How to conduct a survey

Several people simply said we need help in all areas. These data gave us some of the information we needed in order to try to think through some plans for the future. If the above outline is carefully studied, it will be found that most of the requests actually stem from a fundamental need of understanding principles of behavior — how people learn. Why they behave as they do. How groups behave. Why groups behave as they do. How do you get action?

It appears, therefore, that NPAC was basically right in including in its program sections on learning, group processes, and social action. In fact we made this the primary purpose of the second phase of our communications workshops. We are at present conducting a series of week-long sessions

under the above title. At present we have about 300 people enrolled from a staff of about 350.

We have, of course, included most of the NPAC basic material on the unit act, general framework of the group process, human motivations and blocks to communications, internal dynamics, social action and the diffusion process. We have, however, made one specific change in this. We set out originally with the idea of using "Holstein County." This is a fictional county and the assumption can be made that one should be able to look at the county, the county staff, the problems, etc. quite unemotionally and more objectively. This did not prove to be the case. I do not claim to know the reasons for this failure. Perhaps it was unwillingness to project. Perhaps it was lack of imagination. Perhaps the poet was right when he said, "The world is too much with us" -- you can't drive a hundred miles away from your daily chores and immediately "lose" yourself in new activity. Perhaps the time was too short. At any rate, we decided to shift from an artificial problem to real problems. The members were asked on their first day to try to select a problem that was very real to them -- a problem they now faced, one they were now working on, or one which they would like to get started on. Perhaps the most important part of this assignment was that they must write it down in a complete statement or a complete question. In addition, they were given handouts on "How We Learn," "Problem Solving Thinking," "Learning and Training," and "How Advertising Can Use Psychology's Rules of Learning."

There is some evidence to support the plan of providing activities organized on a basis of voluntary participation and related both to the needs and interests of the individuals and the group. The President's Commission on Higher Education (1948 Higher Education for American Democracy, Vol. 4) has stated certain general principles to guide group activities:

1. Voluntary participation should be the major pattern.
2. Group work is most productive where the objectives are of immediate concern to the persons involved.
3. Group decisions should result in action.
4. Consensus is the aim of group study.
5. Informal procedures are most desirable.
6. Skillful leadership is necessary for successful group meetings.
7. Follow-through between meetings is essential.
8. Effective procedure is from specific to general.
9. Organization for group work should be kept simple.

I'm sure you have gathered by now that our new section was on problem solving. We found that practically everyone had read the handouts before returning the next day. We began our presentation by asking for the statements of the problems. The gist of what I should like to say here is that our discussion centered about "How do you recognize that a problem exists?" or "How do you identify a problem?", and "How do you state a problem?" When these individual statements of problems had been explored, each table of five was asked to select

one of the problems as a group problem. This then constituted the task force problem for the rest of the week. The interest ran extremely high and, more than that, there was little deviation from the subject at hand. I have included a sample of the kinds of problems chosen by the groups:

Task Force Problems-Second Communications Workshop-March-May 1957

1. The Problem: How can we get a county extension committee to accept the responsibility of program analysis and program decisions?
2. How do we get Jay County farmers to plant their soybeans in rows instead of drilling them solid?
3. Why does the weekly newspaper not give as good publicity to extension programs or meetings as does a daily newspaper in the same county?
4. How can Extension create and maintain the interest of young adults (20-30 years)?
5. How can we raise the standard of living in Perry County?
6. How can we get parents to understand the purpose of 4-H Club work?
7. How can we have an active county extension committee in Tipton County?
8. How do you present the extension program that county people want?
9. How can we get the people of Clay County to help in getting a health nurse?
10. How can Posey County break down social barriers created by distance and physical development of communities so that county-wide extension activities can be more successful?

No doubt the interest manifested by the group was due to some extent to the efforts in Indiana to get going on program projection. Interestingly enough, however, the term "program projection" did not crop out even once last week! We were interested in trying to give our workshop members an opportunity to gain some insight into systematic thinking. Also, we tried to stress that this kind of thinking not only applies to high level research, but also to thinking in everyday life.

This, then, is where we are in communications training. Where do we go from here?

For my personal satisfaction, I have tried to get at an operational definition

of training as it applies to extension. Now this is merely an operational definition and we need not be concerned with such a question as: "What part of an annual conference is training and what part is not training?" The definition is confined to what can more directly be done to help extension workers do a better job. Such a limited definition, then, includes:

1. A core program of graduate study.
2. A personnel training laboratory.
3. A library.
4. Evaluation.
5. Administration and supervision.

Graduate Study

A graduate program should be thought of as beginning at the time a person is employed by the director. If the person employed does not have the potential for graduate study, your graduate program already is defeated. From this point of view, the building of a graduate program is a slow process but, once having raised the standards of recruitment and selection, the results should soon show in service.

Today and in the future a graduate program for extension purposes should be thought of as at least a five-year program. In more than half the States teachers in the public schools must, by law or contract, complete a master's degree or its equivalent within a given period of time, usually five to ten years. The history of public education in the United States shows that we have slowly added to the number of years a person spends in school. We have in many cases added the kindergarten, and in some cases, the nursery school. The term "secondary education" has been expanded in meaning until today it means the sixth through the fourteenth grades. The so-called "fifth year" is a current project in a large number of teacher training institutions. Unfortunately, the idea "fifth year" seems to mean something "added on." What is needed is an integrated five-year program leading toward the master's degree.

In recent years, there has developed in Indiana, as well as in many other States, an increasing need for post-graduate study for State and county workers in the agricultural and home economics Cooperative Extension Service. This need has largely grown out of the rapidly increasing developments resulting from scientific research. One of the important consequences of the results of this research is the growing complexity of the educative process. There is also a greater awareness among extension workers of the need for better understanding of the dynamics of individual behavior and of group processes.

In many respects the educational work of the cooperative extension service is highly specialized and unique. Extension workers must be well prepared in agricultural subject matter. In addition, however, they need to gain considerable insight into how to work daily with many different types of personalities and the underlying forces which motivate them. Agricultural and home economics extension is a year round highly developed adult education program which annually directly involves well over 120,000 persons in

the State of Indiana. Specialized training is becoming more and more essential in the rapidly changing socio-economic scene. The core program suggested below will provide the fundamentals of this much needed training; in addition, short courses and workshops will keep pace with the changing scene.

At present, no advanced degree for agricultural extension is available in Indiana. True, courses and degree programs are offered in many other States. Many of the staff do avail themselves of these opportunities. But it is becoming more and more difficult to administer to the unique problems of Indiana, not to mention the lack of utilizing to the full the rich resources of Purdue University.

A program leading toward a master's degree in agricultural extension is feasible and highly desirable. The departments of agricultural economics, speech and sociology are very much a part of this program. The suggested program should broaden the base of the candidate's general education, teach him to meet the unique demands of the Extension Service, and deepen his insight in specific subject matter.

The purposes of agricultural extension education as I see them are to:

1. Provide a working philosophy of agricultural extension.
2. Teach methods and techniques applicable to the Service.
3. Develop new methods and techniques.
4. Provide courses of study.
5. Provide opportunity for workers to obtain a master's degree.
6. Encourage capable people to complete the doctorate.
7. Stimulate workers to broaden their viewpoints.
8. Evaluate training programs and procedures.
9. Provide a counseling service for both undergraduate and graduate study.

Proposal for Courses of Study:

A candidate's plan of study would consist of four basic courses in agricultural extension, a course in each of the departments of speech, sociology, and agricultural economics and minors in agricultural subject matter areas or in the social sciences. The following extension courses would be in the major sequence:

Principles and philosophy of adult education in cooperative extension; measurement in agricultural and home economics extension; techniques and methods of cooperative extension; and extension administration. In addition, opportunity should be offered for studies in agricultural and home economics extension.

Courses of Study: Major Sequence

1. Principles and philosophy of adult education in cooperative extension.

The extension teacher should become fully aware of the nature of the institution of which he is so much a part. He needs to examine the fundamental issues. He needs to study the nature of the adult and older youth, the nature of the society in which he lives, the nature of the problems facing the adult and older youth, and he needs to consider what are the tasks of the extension teacher.

2. Evaluation in agricultural and home economics extension.

Concepts involved in measurement and evaluation with application in agricultural and home economics extension.

A course on evaluation in agricultural extension is long overdue in Indiana. The extension teacher deals with many different individuals every day and he is constantly involved in a large number of meetings. How does he go about evaluating his work? To date, there has been very little done in this area. The extension teacher needs to know the principles, scope, and methodology of evaluation; the types, uses, and qualities of major evaluation techniques; the administrative aspects of an evaluation program; and how these principles, etc. rather uniquely apply to extension. He needs to know how to construct and use certain instruments, especially questionnaires, checklists, rating scales, case studies, and the like. He must learn how to integrate and interpret these various indices of behavior with special application to the adult.

3. Techniques and methods of cooperative extension.

Teaching adults as individuals and in groups requires an orientation quite different from the traditional classroom atmosphere. In no other area of education are students so free to withdraw from learning situations which do not interest them. No where else is the study process in competition with so many other important life activities. Adults tend to be alert, interested, purposeful students. And there is an urgency of the content of most adult education which gives work in this field special significance.

There is a tendency toward a much freer and better-planned use of the newer media of instruction today. No one medium can hope to do the job of extension education. Any medium must be reinforced by others.

All methods and all media that help people to learn are important in adult education. These must, however, be supported by the principles of educational psychology that have been validated both by research and by experience.

4. Extension administration and organization.
The administration and organization of cooperative extension; laws, Federal, State, local; observation of administrative units.
5. Studies in agricultural cooperative extension.

In addition to the course in evaluation, candidates should be offered opportunity to further their knowledge through research studies and current problems and receive some direct experience in problem solving thinking.

The remainder of the core are regularly established courses in their respective departments. The heads of these departments have agreed that these courses would be appropriate: advanced public speaking, rural community organization and leadership, and agricultural policy.

The school and departmental organization of Purdue University has resulted from a long period of evolution of educational programs, first at the undergraduate and professional level and later at the graduate level. This organization does not always lend itself to a completely rational administration of research and graduate study. Research is dynamic. The researcher seeks a solution to his problem without regard to the fine distinctions of university departmentalization. The complex interrelationships between the pure and applied sciences furnish many examples of problems of this type. Increasingly, the applied sciences lean on the underlying sciences. Mathematics and the physical sciences are playing a role in the biological and social sciences not dreamed of a few years ago.

1. The Graduate School must retain an organization sufficiently fluid to facilitate the development of research and graduate programs which make use of all the appropriate resources of the University. This can be accomplished within the administrative framework of the University without constant reorganization, to the extent that administrators and research leaders are willing to put the interests of the student and the problem above departmental interests.

In a plan of organization for interdepartmental committees, which follows, two distinct patterns are recognized:

- a. Inter-disciplinary. Here a team approach to a problem is most effective. It involves particular persons who can contribute to the problem. In some instances the ordinary student advisory committee can serve this purpose. In other cases, a research program

or a series of related student programs require a more formal and continuing organization. Examples are environmental physiology, nuclear engineering and food technology.

- b. Intra-disciplinary. Here the persons interested are separated by departmental organization. This may come about because of a departmental separation of the pure and applied academic and research programs. It may come about through departmental organization related to professional education. In the graduate school there are numerous areas that can be roughly defined as disciplines or emerging disciplines, not now having departmental status. The staff may be separated in several departments of the university. These staff members may and usually do have research interests more closely related to those of persons in other departments than to the interests of their other associates in the department to which they are attached. Examples are plant physiology and nutrition, microbiology and genetics.

The sole purpose of these committees is to organize the resources of the university around students and problems. They should be kept as informal as possible. Once the program is established, the formal aspect of the committee should become less important, and informal day-to-day cooperation should replace it.

As I see it, one of the major problems of the interdisciplining idea is that the extension major would not have a "home" in extension. His "home" would be in one of the other departments of the university.

- 2. Personnel Training Laboratory. The new extension workers' workshop and all other workshops and short courses shall be a part of the training laboratory.

- a. New extension workers' workshop.

This will be a two-week workshop to be held immediately following the Indiana State Fair in the fall. This workshop will place emphasis on basic, oral, and written communications, as well as principles and practices of extension work. This will be the Indiana way of perpetuating the NPAC original workshop.

- b. Workshop in oral communications.

This will be a one-week workshop. It may alternate with other workshops offered on an annual basis. The content will stress oral communications, the interview, the farm and home visit, the audience, and the preparation and presentation of talks.

- c. Workshop in written communications.

This will be a one-week workshop. Eventually it should alternate with other spring workshops. The survey mentioned above shows that more people are asking for help in written communications than in all other areas combined.

d. Workshop in audio-visual aids.

Eventually a workshop in audio-visual aids will be offered alternately with other spring workshops.

e. A workshop in measurement and evaluation.

Library

A specialized extension library could provide a complete record of all aspects of the extension service. In the beginning, however, the most pressing needs of extension workers would be met. These needs lie in such non-agricultural areas as audio-visual aids, techniques of teaching, behavior, communications and the like.

Evaluation

Perhaps one of our greatest needs in agricultural and home economics extension is a systematic program of evaluation. We have already suggested a course of study in evaluation. In addition, we need to coordinate whatever evaluation is going on in the State and also develop new programs of evaluation. No doubt it would be wise to employ a full time person trained both in measurement and evaluation and in agriculture who could devote his time to designing evaluation measures and programs, teaching, and assisting in individual and county staff problems.

Administration and Supervision

The training program must, of course, be administered. The emphasis for the moment is meant to be on supervision.

In checking a mileage map of the State of Indiana, I find that at least 16 county seats lie within a radius of approximately 50 miles of the Purdue campus. Over a period of time, it should be possible to develop some of these counties into training counties. This would make possible careful supervision of both trainers and trainees. It would also be possible to include in the trainee's contract the provision that he may take daytime classes at Purdue as long as he is in a training county. Thus, a trainee would be able to complete requirements for the degrees by serving in a training county for one year and spending one semester on campus. This plan, of course, would not exclude continuation of study by those in other counties nor continuation of study after leaving a training county. We might anticipate that it would take several years to put this kind of plan into full operation.

In summary, we hope to continue the use of NPAC communications materials in the annual workshops for new workers. Workshops on skills will be offered according to need and demand. But in the main we shall keep

long-term goals in mind, leading in the direction of both an undergraduate and a graduate program which should broaden the base of preparation, raise the standards of recruitment and selection, and ultimately enhance the services of agricultural and home economics extension.

Just a few words about the NPAC training program. This program has seen a great beginning in stirring up interest in communications and some of the basic principles related to it. But it is only a beginning. Some means must be found to continue the good work and to build on the foundation already laid. Perhaps some committee, agency, or task force will be ready to take up when NPAC ceases to exist. I, for example, would hate to see a period placed after the very sketchy introduction that has been made to "how we learn." If someone else asks me "what does a farmer do?" and I say, "he milks cows," period, you would not accept that as a very satisfactory or complete answer. To say that we learn through the senses and by means of association is to say extremely little about learning.

There are no ready-made answers on the next step. I am sure that all the states would welcome guidance and leadership. The answers must evolve through much study and discussion. In order to help my own thinking about giving some continuity to what NPAC has begun, I have jotted down one or two suggestions.

1. Organize a body to give permanence to the communications training idea.
2. Develop a workshop unit on the teaching-learning process. This could in part be oriented about the problem-solving technique. Inevitably this in turn would lead us back to more basic principles of learning, group process, and social action. To help integrate this subject matter on problem solving, certain techniques could be planned and deliberately taught. It could be a teaching skills workshop based upon sound principles of learning.
3. Perhaps some individual or individuals, trained in teaching, imbued with the communications idea, and familiar with what has been done by NPAC and by the States, should be available to visit the States, share their problems, and assist them in further implementation.
4. That some plan or organization make it possible for those persons in the States directly responsible for training to meet together at reasonably frequent intervals to exchange experiences and share new ideas.

PSYCHOLOGICAL BRIDGES TO EFFECTIVE TEACHING

by

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- I. Concepts must be formed by the learner himself and out of his own experiences.

The teacher cannot give the learner a concept. He must structure the learning situation so that the individual can learn the new in terms of what he has already learned.

Evaluation of learning based on the learner's ability to verbalize what he has read or heard is not a valid indication that it is meaningful to him.

- II. Problem solving can be taught.

A problem may be defined as a situation in which there is a need for an individual to resolve a situation for which he has no acceptable behavior. Emphasis seems to be placed on reproductive thinking. That is, the learner attempts to fit past behavior to new situations. Past experience is important in problem solution; however it can prevent creative thought because our attention is diverted from the goal.

- III. Transfer of learning must be provided for in our teaching.

There are two theories which explain how learning from one situation transfers to another - the theory of identical components and the theory of generalization. In the former, the elements from one situation transfer to another as being able to shift either of two cars if they have standard shifts. The second theory suggests that a generalization learned in one situation may be applied to another. The faster one drives the greater will be the impact in the case of a collision.

The important factor in teaching for transfer is that we cannot assume that because an individual has learned that he will apply his newly gained information to his daily living. Therefore, it is important that we make every effort to show how it may be applied in numerous and varied situations.

IV. Retention is basic to further learning and it can be improved.

We forget because new learning interferes with the old. After a learning experience we forget more per unit of time immediately after a learning experience than for any other like unit of time in the future. Therefore, we should encourage the learner to think through what he has learned immediately.

As teachers we have an obligation to make learning meaningful and thorough. Showing numerous and varied possibilities for application retards forgetting. Emphasizing the results of application also promotes retention.

CHARACTERISTICS OF GOOD TEACHING

by

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When we think of good teaching, we usually are inclined to shift the emphasis to good teachers. It is difficult to separate the process from the personality that is involved.

And when any of us tries to recall the images of the good teachers he has known, it may become difficult to relate this to another person's experience. But this is the only way that I know for us to reach a meeting of minds. Therefore, in order to find a common ground for our group thinking here today, I propose to start from the basis of your and my personal experiences. If I can take a few minutes to recount my own reactions to some of the best teachers I have known, this may stimulate your own memory and we may be able to arrive at a few generalizations.

I tried to remember all of my grade school teachers, but only one name and one grade stood out clearly over the rest. It was Miss Voss, who taught the second grade in the Washington School in Janesville, Wisconsin. As I remember the progression through those first six grades, it was reasonable and orderly, with the expected increments in arithmetic, reading, writing, spelling, geography, etc. But why does Miss Voss stand out? I think it is because she was sensitive, helpful, and trying hard to cater to each pupil's individual needs and interests. Hers was not a mass approach to grinding out assignments. Instead, her teaching was inspirational in opening new vistas and new challenges for sensitive 7 and 8-year olds. She was helpful in stimulating the self-motivation that becomes the key to almost everyone's progress.

Similarly in high school, only one or two names stand out as distinctly superior. The highlight was Marjorie Davis. In succession she taught me advanced algebra, solid geometry and trigonometry. In addition it was my good fortune to have Miss Davis as a home room advisor throughout the three years in senior high school. Her good counsel and encouragement were important influences in helping to make right decisions in those many areas that were so vitally important in the final years of high school. But her most important influence was in the high and rigorous standards that were maintained in her teaching of subject matter. Not only did she enforce the incessant drill that was essential to the mastery and retention of mathematics, but in addition she made us want to learn well the many practical uses of a tool subject that would serve us the rest of our lives. We had confidence in her knowledge of the subject and we took pride in turning out good work for a person who was demanding and exacting of the maximum of each student's ability.

In singling out Miss Davis, I don't mean to slight the other good high school teachers. There was Johnny Arbuthnot, for example, who had taught physics to all my family before me - my father, my mother, and my sister. His stern discipline was coupled with a sensitive understanding of individuals, and his complete up-to-dateness of approach through a lifetime of high school teaching provided inspiration to want to do likewise. And there was Edna Taylor with her love of literature and stern principles of grammar; and Annie Plumb who somehow pulled us through four years of Latin.

It is too much to expect every teacher in high school to be equally effective with every student. Most of us are fortunate if time and place coincide to allow at least one such great teacher to set the wheels in motion for continued, self-generated power.

In college years it was quite different for me, and it probably was for you, too. By then we were self-propelled, and we knew it. The teacher's job was somehow to challenge. At first this took the form of admiring, for example, the systematic intricacies of calculus and of trying to emulate John Mayor in his thorough mastery of the subject; or of recognizing the important value of writing clearly and concisely under the tutelage of Charlotte Wood. Further dignity to the subject of English was conveyed by Mr. Quintana, and he almost convinced me that I should be an English major. But in the meantime I had listened to George Bryan's lectures in botany. Here was a chance to use both writing and mathematics. It was a scientific subject with its precise and orderly way of thinking, full of so much already known but also so many questions not yet answered.

Later when I began my graduate major in plant cytology with Charles E. Allen, one of the finest scholars I have ever known, I wondered why I could have been so inspired by Bryan's elementary teaching. But this is just the point. One mind challenges us at one stage in our development, but he is replaced at a later stage by yet another. So it was, each adding something new. There was Norman Neal, who so effectively demonstrated the hard work along with the genuine rewards that might come from original research. And there was the visiting professor, Dr. Goulden, who showed us the neatness and the effectiveness of biometry, as a then relatively new tool in research.

The important element in college or university teaching seems to be this ability to make one want to think. It can be done in different ways. Well do I remember the postdoctoral course I had with Professor Snedecor. His method was partly to confuse and then, with adroit assistance, clear the way for the same reasoning that had developed the subject in the first place.

This is probably enough from the autobiographical side. The details needn't concern you, but I hope the train of thought has helped you to

reflect on your own individual experiences with great teachers. Who affected you most in grade school? Who kindled your interest in high school? Who was your idol when you first went to college, and who gave you the inspiration for your after commencement learning that is most important to all of us?

Answering these questions individually, we undoubtedly arrive at some consensus of the characteristics of good teachers. Such characteristics cover a wide range, however, and may not be common to all teachers whom we have remembered.

On a few points we certainly would agree. A teacher who is very effective at one level, may not be effective at another. Similarly, a teacher who is able to reach a certain type of student may have little influence on the student sitting beside him. The more we reflect on this process, the more wondrous it becomes. With all the human vagaries of being at the right place at the right time, it's a wonder that we establish effective communication between teacher and student as often as we do.

Another fact that emerges as almost self-evident is the problem of the student himself. Obviously a teacher's effectiveness is conditioned in large part by the quality of the student - and if this argument is carried to the extreme, we would have to conclude that the really top drawer student can teach himself effectively, irrespective of the help of any teacher. We have found, however, that teachers and classes and courses and curricula are the most efficient way of getting to the desired goal with most people.

If we accept the thesis that good teachers are likely to be most effective with good students, we might reason that this is the area in which all good teachers should devote their efforts. In this way we would maximize the learning process for each generation, but it would not accomplish our democratic objective of training each person, whatever his capabilities, to the maximum usefulness of those capabilities. And furthermore, we have no way to predict the outcome of this complicated interaction between teacher and student. So we end up with a system of trying to provide the best possible teachers and hoping that somehow in the shuffle each student will be able to make the proper contacts that will have the desired results.

At this point I am certain that some of you are wondering why I've led you off into these timeworn platitudes and generalities when, after all, the educators have been able to catalog the specific qualities that make for good teaching and have written whole books about them. Oh yes, I've seen such tabulations. I've been subjected to such questionnaires about my own teaching, and I've had to rate my colleagues on these standard score sheets. And I certainly admit that some measures of this sort are helpful guides - but only guides.

For example, we would have to admit that some respectable standards of personal appearance should be a requirement. But interestingly enough, we frown less on the eccentric in college teaching than in grade school teaching. Sometimes these variances in personal appearance provide interesting distraction, but they are usually overlooked. Well do I recall the university economics class that used to place bets as to whether or not Professor Kiekhofer's wig would shift during the lecture, but this diversion didn't interfere with Kiekhofer being a great and effective teacher for many students.

Often we place great stress on the method of presentation. We say that the man must have his thoughts well organized, that he must speak in a pleasant and sincere manner, and that he must employ all the modern teaching aids at his command. We may even measure his course by the reams of mimeographed notes that he distributes, by the boxes of slides that he shows, or by the ingenious gadgets that he has developed to enliven the demonstrations.

Really, though, how important are these somewhat superficial measures in comparison with the basic subject matter that is presented. On a weighted scale, what value would we place on knowledge, per se, of the subject? A common comment by students is that the professor sure knows his subject but that he doesn't know how to teach it. This criticism loses some of its force, however, when we reverse the emphasis. How effective is the teacher who has mastered all the methods and procedures but who doesn't know his subject well enough to command respect. No, in my scale of good teachers, I must place primary emphasis on knowing as much as possible of what is known about the subject before attempting to teach it and then presenting it with enthusiasm. The exact method then doesn't make so much difference, since the contact with the student under these circumstances is lasting. If the contact has depended mainly on fascination of method, without adequate subject matter, the effect is transitory, to say the least.

Knowing your subject "cold" doesn't mean, of course, that you'll always be able to answer every question adequately. There are many occasions when it's better to reply, "I don't know, but here's how we might try to find the answer." To be sure, any presentation of subject matter should be made in as interesting a manner as possible, but this doesn't justify an approach that implies that everything is known about the subject. Instead there must be an element of stimulating thinking about what is not known. Let me give you an example. One of Cornell's great teachers was Professor Fraser. He taught the beginning genetics course in a superb manner, but he left the impression with some students that the last word had been written about genetics. Fortunately, for the eager research minds in the department, Fraser's influence was more than counteracted by Dr. Emerson, who could start from the clear-cut, well organized

presentations of Fraser and subsequently develop an attitude of inquiry into the unknown that, in turn, made him one of our really great teachers of graduate students.

Sometimes we lean on supposedly more absolute measures of a teacher's worth. We may review the increasing (or decreasing) popularity of an elective course as measured by enrollment, or we may poll student reaction about their teachers. How much better it would be if we would poll the reaction twenty-five years after the course was completed. But that is usually too late even for special bonus payments as rewards. Nevertheless this may have possibilities. The process would be comparable to the geneticist's use of a progeny test to effectively measure the genotype. If we could somehow evaluate a teacher in terms of how well his students succeeded after ten or twenty years, we might at least be able to promote a more justifiable system of salary differentials for the senior staff.

We have mentioned several characteristics that are proper to include in any selection index for good teachers, but so far we haven't considered, except by inference, probably the most important one. It might be labeled "attitude of mind." By example, every great teacher tries to convey this concept. But it's intangible in its nature and it's difficult to measure in the student. If the student does emerge from the experience with a broader and more purposeful attitude, it won't make too much difference as to exactly what or how many details of subject matter he retained because now he's on his own. And so we come back to the student as the real measure of a teacher. This is evident at all levels but assumes special importance in the case of graduate students. On another occasion I attempted to specify the four dimensions for measuring the success of graduate student training and, in brief, they were listed as:

I. Length - specialty

Extent of authority or general competence in major study:

- How thorough.
- How exhaustive.
- How original.
- How significant.

II. Breadth (or width) - allied fields

Competence in minor or corollary subjects:

- Largeness or liberality of views.
- Width of outlook and interpretation.
- Range, scope, or comprehension.
- Extensive versus intensive.

III. Depth

Perspective or profoundness.
Human application.
Relation to everything else.
Penetrance (from genetics).

IV. Fourth dimension - persistence over time

Permanent value to an advancing civilization.
Value tomorrow - either as building blocks or for direct use.

In shifting the emphasis to these intangible measures of the student product over time, I don't mean to imply that there aren't immediate problems for the administrator in evaluating teachers. Take the matter of salary increases or promotions that must be decided on a day to day basis. What criteria do you use? As a rough rule of thumb, I try to think through the following steps:

1. Total staff needs in department - place of individual in total teaching and research program considered essential in that field.
2. Opportunities for growth - proportion of tenure professors, age distribution, and need for expansion.
3. Specific qualifications:
 - a. Academic background - degrees.
 - b. Training - type and quality.
 - c. Experience - both in and outside.
 - d. Teaching.
 - e. Member of university community.

No matter how careful we are, however, in the selection of good teachers for promotion, this is only part of the job as far as insuring good results. In addition, we must constantly be at work to encourage teachers in their continued growth and development. Take the problem of subject matter alone. The teacher who doesn't make a constant effort to keep his teaching up to date rapidly becomes less effective and useful. All of us have witnessed many times the promising young teacher who seems to go stale or at least not progress in his teaching. How much of this is his own fault and how much can be attributed to our not having provided a congenial environment for growth? This, of course, varies with the individual case. But in order to reduce the possibility of poor environment being to blame, we must provide all the necessary conditions, such as regular inservice training programs, leaves for further study or other

forms of development and effective communication between staff members at all levels.

Of one thing we can be certain, namely, the inevitability of change, both in the individual teacher and in the system of which he is a part. This fact was emphasized by Dexter Perkins, our John L. Senior Professor of American Civilization at Cornell, when he delivered his presidential address to the American Historical Association last winter. If we keep this fact in mind with the selection and promotion of each of our teachers we can maximize the potentialities in the changing system itself. Changes in the system are certain to come, whether it be to increased television for instruction or to more automation in the grading of exams and keeping records. The problem is really to encourage change and, in the process, to develop great teachers. In this way we can dignify the teaching profession and better meet the increasing challenge before us.

Let me close by quoting the summary paragraph from Professor Perkins' address. He was talking to historians, as one teacher talking to another. His message seems equally applicable to all of us who would strive to be good teachers.

"And what we teach will be more than knowledge. Knowledge we must have, and have in growing measure - the fruit of an ever exploring mind, the product of a restlessly inquiring spirit. But in addition we shall be influential in proportion as we think about the values that we wish to communicate as well as about the facts that we wish to communicate. We must make the past more vivid and the quality of man's adventure more deeply understood; we must interpret the past broadly, in the spirit of a man to whom nothing human is alien; we need not be afraid to speak of moral values, to be sensitive and compassionate, or to exalt wisdom and goodness; we must set the example of a sound intellectual and moral balance, of a broad view of human values; we must make the processes of the mind in seeking truth so fair, so understanding of various opinions and yet so clear that they will command respect and deserve imitation. And, if we do these things, the classroom will be more than a lecture place, more than a preparation for examinations, and more than the medium for communicating facts that will soon be forgotten; it will be an abiding influence in the life of the great nation to which we belong and a source of light to the generations that sit at our feet. It will be a vital part of life itself."

THE CASE OF METHOD TEACHING
Notes on Discussion Led by
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Life situation materials are useful for training purposes. As leaders of training you are concerned with how well you can do the training job. The case method is an additional tool for use in teaching to supplement lectures, discussions, and other tools.

In our considerations of the case method today you will take two roles--that of the trainer and that of the agent being trained. In this period as an example we will use the case method to help agents learn how to make an effective visit. The case we will use is one written by Ken Warner, which we will call the Jepson Case.

As we read the case story, let's consider this question: "What are the problems that are important in this case? What needs working on?" Then we will establish some basic principles against which to examine the approaches the agent might make through the home visit.

Feelings toward people show themselves in the way we work with people or act toward them. Training in techniques may be a veneer. We need to consider attitudes as a basis of teaching. The case we have used today presents an opportunity to look at attitudes as well as techniques.

The steps in the case method, as used in this discussion, were:

1. An introductory statement by the discussion leader, stressing the importance of life situation materials in training, and outlining briefly the procedure to be followed in the discussion.
2. Passing out copies of the Jepson case.
3. Reading aloud part I of the Jepson case by members of the group.
4. Small group discussions (15 minutes) on the question: "What are the most important problems in this situation?"
5. Small groups report. Discussion leader writes problems on blackboard, dividing them into two groups:
 - a. Problems facing the Jepson family.
 - b. Problems facing the home demonstration agent in working with Mrs. Jepson.

During this process the leader encouraged the group to recognize the importance of distinguishing between these two types of problems, and of being guided by the priorities in Mrs. Jepson's mind.

6. (The following is a digest of the discussion growing out of the analysis of the Jepson case.) In order to do the latter, the agent must be able to:
 - a. Listen sympathetically and be sensitive to the feelings being expressed.
 - b. Work hard at trying to understand the causes of problems in the past and present experiences of the other person as she has interpreted them. (Her interpretation might be quite different than the agent's.)
 - c. Avoid judging as "good" or "bad" the other's attempts to solve his problems. Instead, try to understand why he chose one way rather than another, or why he finds it difficult to decide on any way.

(By doing these three things, the agent is conveying two attitudes which are crucial in establishing mutual confidence: (1) Sympathetic friendliness, which helps the other to feel secure; (2) respect for the other's integrity and intelligence, which helps him to build self-respect and confidence.)

- d. Be willing and able to give suggestions and assistance of immediate and practical usefulness:
 - (1) When appropriate to the readiness of the other person. (People are sometimes not ready for help when we think they should be.
 - (2) When the chances are great that the help will increase the other's skill in problem-solving, rather than his dependence on the agent for "the answers;" or
 - (3) When it is apparent that an early "success experience" in the relationship between the agent and the other person is necessary in establishing or maintaining mutual confidence. In other words, when it is necessary for the agent to prove that "he has something to offer."
- e. Be able to talk with, not to, the other person in such a way as to help him to think more clearly about:

- (1) What he wants.
- (2) Whether his wants are realistic in the light of his situation.
- (3) How his wants are related to the wants of others who are important to him.
- (4) Alternative ways of moving toward the achievement of his wants as he progressively better understands them.

(It is in this process of analyzing his wants in the light of realities and of the desires of others that a person moves from the level of expressing "wants" to the level of a better understanding of his "real needs." By aiding in this process the agent helps the other person increase his self-understanding and thus his ability to see clearly the real nature of the problem situation.)

- f. Be ready to give support and approval to the effort the other person makes at all stages in his attempts to deal with his problems. In other words, give sincere praise for accomplishments, not only when they are finally achieved, but also during the process of development.

(The agent thus helps the other person increasingly to appreciate the value of attacking problems in ways that (1) enhance self-understanding and (2) improve relationships with other people through consideration of their wants and needs.)

(Copies of the case used as an example have been mailed out to States by Extension Training Branch, with the request that the State, if interested, duplicate such portions of the story as are useful to them. The title is Farm and Home Visits.)

OUR STUDY OF FIELD EXPERIENCE
Notes taken on talk made by
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Program Director for Extension Education
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In 1953 the University of California started its first course in extension education. To date there have been 88 students in the course, 20 percent of whom have become extension agents. The impetus for setting up a field experience course came from students themselves. In four years they asked for an opportunity to work during the summer in extension county offices.

Dr. Thompson and Dr. Sutherland of the Department of Education prepared a questionnaire ^{1/}to get data from States concerning the field experience course now being offered. These data relate to the structure of the programs and to evaluation of the courses. Forty-six States and Territories replied. Of the 46 replies, 25 indicated they have such a course; 9 are for home demonstration prospective personnel only; 2 are for agricultural prospective personnel only; and 14 are for both. The courses for the home demonstration phase have been going on longer; 16 have been offered for more than 5 years. Of the courses in agriculture, 10 have been offered less than 5 years.

The majority of the courses are offered during the summer months. In one institution the course is strictly postgraduate. The 25 courses ranged in length from 2 to 48 weeks; most generally they were 8 to 12 weeks in length.

Prerequisites vary widely. In 8 institutions there are no prerequisites, in some 4 or 5 extension courses are required. It is doubtful that many extension courses would be of greatest value to students; there are other types of courses more essential, i.e., rural sociology, group dynamics, public speaking, etc.

About one half of the students who complete the field experience courses enter extension. Ranges reported by schools were from 17 to 100 percent of home economics students and from 0 to 80 percent of agricultural students.

In all but 6 States, students are given a salary while receiving field experience training. The home demonstration personnel receive less than

^{1/} For full report see "Field Experience Programs for Prospective Agricultural Extension Workers," by S. S. Sutherland and O. E. Thompson, University of California, College of Agriculture, Davis, California.

the agricultural personnel. The sources of funds varied; however, all but 4 institutions indicated that salaries came from extension funds. It appears that in States where courses were only moderately successful, salaries were low. In several institutions where credit is given students are not paid.

There seems to be two kinds of field experience in operation: (1) one whose purpose is recruitment and some orientation, and (2) a more extensive training program.

California has reached these conclusions from its study.

1. Job opportunities must be appraised before allowing enrollment in the field experience courses.
2. Trainer agents need careful selection and preparation.
3. Care must be taken that students are not exploited with chores.
4. Course should be developed cooperatively by agricultural extension and academic department as a regular college course with credit. It should be recognized as a part of training and compensation should be provided students.
5. There should be little time between the completion of the course and employment.
6. Students should be carefully selected.
7. Trainer agents should have broad, good programs and be carefully trained.
8. Activities planned should be broad and the training period be not less than 12 weeks.
9. The course should have adequate supervision from the college department and agricultural extension.

AN APPRAISAL OF OUR INDUCTION TRAINING PROGRAMS

A Panel Discussion

E. J. Kreizinger, Wash., Lucy Allen, Calif.,
F. S. Sloan, N. C., and John T. Stone, Mich.

The comments of the panel centered on these points:

I. Role of the Supervisor.

Should have a part in selection.

Helps determine training location and make necessary arrangements with county staff.

Follows through with county personnel in the trainer county on progress of trainee; determining further needs for training after official induction training period is completed.

Helps evaluate training program and makes suggestions for improvement.

The supervisor is the key person in training - whether it is induction or inservice training.

Spends time with trainee before they go to the trainer county to explain objectives of training period.

Sees that necessary forms are signed; meets State staff members; introduces trainee to State policies, program, organization and procedures.

II. Role of Trainer Agents.

(This should be a staff function with the county chairman responsible for the trainee getting an integrated training experience in teamwork.)

They should have had training in training.

They have seen the trainees' applications.

They have had a letter from their supervisor indicating areas of particular training needed based on inductee's background and experience.

They have a training outline to follow.

Following above, the trainer agents:

Are responsible for the trainee's day to day learning experiences in methods of teaching, working with individuals and groups.

Help trainee develop a sound philosophy of extension education.

The chairman of the staff should spend planned time with the trainee in counselling on staff organization, procedures and policies.

All agents should spend time with the trainee to show how integration of program is accomplished.
The chairman and other agents responsible for specific training counsel with the supervisor as to progress of trainee and further training needs.

III. Role of State Leader of Training.

Assist supervisors and administration in developing a worthwhile and meaningful induction training program.
Evaluate the induction training program.
Keep up to date in the field of training and present new ideas to supervision and administration.
Develop training aids.
Assist in training of agents in trainee counties in training.

The Use of a Study Guide for New Workers.

California's Study Guide is directed to the new agent and suggests to him a systematic process for developing an understanding of the Extension Service and its program. It has been a useful tool for assisting county extension directors in training new personnel. It provides learning experiences which give meaning to activities engaged in within the on-going county programs.

Extension Training Conference for New Workers.

North Carolina employs from 60 to 80 new extension agents each year and holds a training conference each year for those employed since the last conference. The experience of those participating in extension will vary from none up to twelve months. The objectives, procedures and program contents have materially changed as a result of a more careful analysis of the situation confronting the new workers, experience and observations and comments, evaluation and reactions of the new workers themselves.

The situation confronting the new workers may be described in these terms:

1. He suddenly steps from the role of student to the "position" of teacher.
2. His classroom is improvised, ill-equipped and extremely varied as to size and location.
3. His "students" and prospective students oftentimes differ in about as many ways with respect to age, interests, abilities, value systems, etc. as there are "students."

4. His subjects are many and his concern is no longer just theory but the practical application of theory.
5. He is in a new environment and must make new friends and establish himself in his work.
6. He has accepted new responsibilities but they are not clearly defined or understood.
7. He hesitates to seek advice and assistance from his more experienced co-workers for fear of being considered immature and incompetent.
8. He has the feeling of being on his own but is not sure as to what extent or what is expected of him and he has no procedure manual to which he can turn.
9. He wants to be recognized as an important member of the team and to make a worthwhile contribution.
10. He was employed because of his training, personality, attitude, experience and potential abilities.

We accept the statement that the fundamental objective of extension is the development of people and believe that we should start with our own people. Therefore, in view of the situation just described the primary objectives of the new agents' conference are:

1. To help the new workers gain a better understanding of what the Extension Service is and what it is trying to do.
2. To develop in them a feeling of not only "belonging" but being a very important member of a large and successful organization.
3. To help them gain a better concept of how they fit into the organization and the opportunities for making a real contribution to those with whom they work.
4. To provide opportunity for discussing and demonstrating some of the principles and effective techniques in the use of extension methods.

The conference program includes:

- a. Orientation and preparation for group work. (first day)
- b. Group work - organization, subject and report.
- c. Discussion of professional and social ethics.
- d. Evaluation of program by participants.

Evaluation of the conference must of necessity be in terms of changes in attitudes, interest, understandings and enthusiasm as observed by us and expressed by the agents. They have become an important and accepted member of a group - at least those who attended and who are in about the same situation from the standpoint of knowledge and experience. Staff members who attend a portion of the program realize those new members have the ability to perform in a very creditable way when given an assignment and the opportunity to use their imagination, ingenuity and skills. The administration feels this is one of the most important conferences held during the year. Last, but not least, the last three groups of new workers have asked for a group reunion at a similar conference at the end of five years. This speaks for itself and for the agents.

Induction Training Through Correspondence Study.

We believe that the use of well prepared training lessons on various aspects of how to do extension work has a real place in the systematic orientation and training program for new workers. By preparing orientation material in lesson form it can be varied for different conditions and for individuals with varying backgrounds.

Michigan's home study lessons include the following topics:

General Orientation and Organization

Your appointment (organization - policies).

Getting acquainted with your county.

Penalty mailing privilege.

Office management.

Filing - agriculture, 4-H and home economics filing keys.

Working together (county staff).

Personal friendships are important.

How farm people accept new ideas.

Extension Methods

Getting acquainted with communications resources.

Communications in extension work.

Farm and home visits.

Extension Methods (Cont'd)

How to plan and give a method demonstration (home economics).

Radio.

Television.

Newspaper.

Publications.

Circular letters.

Let's write easy reading.

Visual aids.

How to introduce a speaker.

Planning events.

Agriculture

Analysis of the county situation.

4-H Club

Organizing a 4-H Club.

Pre-camp planning.

County 4-H spring achievement events.

The dress revue (also home economics).

Home Economics Home demonstration

Leader training meeting.

Your first home demonstration council meeting.

It seems to me that by sharing ideas for training lessons of this kind, the various States and the Federal extension office could in time develop an excellent series of how to do it lessons which could be used in classroom teaching, orientation training, inservice training, by correspondence, or in some combination of correspondence meetings and lectures.

CHANGES IN EXTENSION SUMMER SCHOOL PROGRAMS TO FIT
PRESENT DAY EXTENSION WORK

by

M. C. Bond

Director of Extension Service
New York State College of Agriculture

The need for training is increasing year by year. This need, desire, yes, demand for training is being met in many ways. Junior executives of an airline system or railroad company may be studying intensively the problems of personnel management, accounting and human behavior for days or weeks. The room next door may provide for a two to four day conference on soil conservation and involve technicians, college specialists, county agents, and lay leaders.

Feed manufacturers, the seed trade, bankers, fertilizer mixers and numerous other groups come to the Land-Grant College campuses for special training sessions of some duration. Researchers report the results of their studies directly to gatherings of canners and freezers, operators of milk and other dairy processing plants, operators of wholesale and retail food stores, and the like.

These few reminders of the many training activities of the Land-Grant College reflect the expanding flow of the results of research in agriculture and home economics. A flow emanating from highly specialized research and often of direct interest to a limited number of persons.

County extension agents and specialists must be kept up to date on the results of an ever widening field of research. Some way to do this is essential if the extension staff is to retain its enviable position of leadership. Well trained and able specialists are now being employed by private companies and cooperatives. These men may have much more specific training (often postgraduate) than county extension agents. Nevertheless, the well informed county agents will still be turned to as the unbiased source of dependable information.

We are grateful to members of your committee and others who assemble each year from the States for continuing to study the problem, explore the promising avenues of improvement and making recommendations. State administrative officers, supervisors and other leaders in extension work are giving more and more attention to the need for training. This is encouraging.

The topic assigned for this discussion, "Changes in Extension Summer School Programs to Fit Present Day Extension Work," is a pertinent and penetrating question. If we knew the answer, we would already be implementing more aggressively than at present.

Over the past four years, extension personnel attending the summer schools has varied from 616 (1954) to 678(1955). This amounts to about five per cent of the total extension workers employed in mid 1955. The attendance in 1956 dropped off by a total of 23.

It does appear that if we could expand our extension summer school offerings to areas in which there is some common need, we might expect a larger number of extension workers to take advantage of this type of inservice training. Perhaps, then, the first need is for directors of extension and the supervisory personnel to see and believe in the benefits to be had from the summer school offerings, provide the necessary incentives and encourage attendance. The information we now have for New York indicates that we will have more than twice as many county extension workers at regional summer schools in 1957 as in previous years. Present and rather traditional offerings in extension summer schools still provide suitable training for many New York State extension workers.

For some reason, or reasons, it appears that the regional extension summer schools have not developed one or more courses that seem to have appeal to extension specialists. Specialists are interested in inservice training. Many of them are taking advantage of opportunities to keep themselves up to date in their particular specialty. Their preparation for and competence in the special field usually comes about through graduate training. This training seldom includes courses or experiences that lead to an understanding of the philosophy of extension and to organization and methods employed in doing extension work. Would it not be possible to develop at least one course for the regional extension summer schools where specialists could get in a rather intensive three week period some understanding of extension philosophy, understanding of people and effective ways of working with them through groups? Some early training of this sort for specialists might reduce the frustrations that are sometimes encountered and lead to more quickly developing good teamwork between specialists and among specialists, supervisors and county agents.

Another matter that may justify some rather careful exploration has to do with the possibility of some special subject matter courses taught occasionally. These might not be suitable for all five regional training schools. Some of them might be alternated among some of the schools.

An example of this is the increasing demand for and interest in some special county extension work on ornamental horticulture and floriculture. This work is more likely to be expanded as a part of the county extension work in counties where florists and nurserymen carry on a substantial business. It also is of growing importance in the more urban areas where homemakers desire information of this kind. A special course offered for one year might provide an opportunity to see not only the extent of the interest on the part of extension workers but also provide some indication of how such special subject matter courses might serve the needs of agents.

Other similar areas where special one year courses might be considered might include (a) institution management, particularly for home demonstration agents in counties where there are quite a number of small institutions such as nursing homes, child care centers, small homes for the aged, and where home demonstration agents have been asked to assist with education problems encountered by groups putting on meals such as the Grange, churches, PTA, and the like; (b) housing - a number of States do not have housing specialists. Some agents in many States might have a personal interest in educational work in this area and welcome an opportunity for a three weeks' course to give them a better understanding of what might appropriately be a county extension worker's program in this area; (c) agricultural engineering, with special reference to farm machinery and particularly the multiple use of farm machines in order to reduce the overhead investment and make the most efficient use of mechanical aids to reduce labor.

Another area in which more and more extension agents seem to be engaged has to do with urban and suburban extension work. Of course, dealing with these problems might involve extension organization as well as some consideration of the problems of engaging in an educational program rather than performing a personal service, the kinds of information needed for this group and ways in which this can be done without involving the agent in so many picayune matters that there is hardly any semblance of an educational program.

Closely related to this is the marketing information work with consumers. A rather substantial number of extension personnel are now engaged in this work. Even though there have been several regional training schools, it seems that there is yet no very clear, or at least uniform, understanding of the nature of this educational program, the ways in which people may be involved to participate in it and appropriate relationships with other agencies and organizations.

Still another area in which I think the regional extension summer schools might provide some useful training has to do with office management for county extension workers and personnel management or human relations growing out of (a) the need for teamwork among all extension agents in the county, and (b) clear understanding and good working relationships between the agents and office secretaries.

Probably we never will be free from the need for training of extension people in the general area of communication. Basic problems in the use of the written and spoken word afflict most of us. Many county extension workers need training in these areas. We also find that many of our county advisory committees and extension organizational leaders are keenly interested in participating in some of the few public speaking clinics which have been held in the counties.

Extension work in marketing brings one of the biggest challenges that has come before the extension service in many years. The Research and Marketing Act of 1946, and more recent legislation setting up four regional utilization laboratories are now producing a body of research not previously available as a background for extension work in this field.

The number of people engaged in the marketing of farm products exceeds the total number of people engaged in the production of farm products. This brings an entirely new clientele with whom the extension service personnel may carry on an educational program. Most of them know nothing about extension. Probably in many cases our organization is not set up to adequately develop and supervise extension work in this field. Many of the problems related to an effective extension program in marketing need careful and widespread study by the Federal Extension Service and by individual States or even on a regional basis.

Regional extension summer schools cannot and should not attempt to solve all these training needs. Nevertheless, there may be a place for a special three week summer school course on marketing aimed mainly at bringing the results of some of these very much broadened areas of research together for those county extension workers and extension specialists who are particularly concerned with, interested in, and located where they think there is a possibility of developing the beginnings of an extension program in marketing.

The several questions and suggestions which I have thrown out here should not be viewed as replacing most of the major key courses which have been offered at the regional summer schools over the past decade. The skills in working with people, the knowledge of teaching principles and the methods of good teaching, the skills in communications and human relations, the development of programs and the evaluation of the extension job, are all vital to a successful long-going program. Many of our extension workers had relatively little undergraduate training in these areas. New personnel coming on the job need this training at an early date to avoid perpetuating unsuccessful, ineffective, or even objectionable habits and practices that may limit their effectiveness.

In the race for manpower, the extension service is undoubtedly employing some people who are not as well qualified as they should be. Getting them to summer school frequently during the early years of employment may make the difference between their failure or success. In this era of continued training for adults in all phases of our society it is essential that we in extension develop in our staff (a) a recognition of the need; (b) a personal desire for professional improvement; (c) favorable attitude on the part of lay leaders in the counties; and (d) a favorable climate for, and satisfying experiences from the intensive three weeks of study

in our regional extension summer schools. While, in my judgment, these extension summer schools have an important place in our overall training program, they cannot replace the need for inservice training State by State, nor do they replace the need for graduate training for qualified extension workers with a desire to broadening their knowledge and to prepare themselves for larger responsibilities.

COOPERATION OF STAFF IN COMMUNICATIONS TRAINING

A Panel Discussion

K. F. Warner, Md., G. P. Summers, Ky.
and E. K. Hanks, N. Y.

Warner: As you know, through the endeavors of the American Association of Agricultural College Editors and a Kellogg grant, the National Project on Agricultural Communications was undertaken. Twenty-six States and the Federal extension office have had teams of staff members trained in communications workshops and are now engaging in a mass training program for county workers.

Communications is a cooperative undertaking. It is important that we in extension training understand the process. We three, on this panel, who have taken part in these communications workshops will try to illustrate what it has meant to us to work as a team. We will describe for you how we pulled in other people to make communications training a cooperative effort.

Summers: We in Kentucky have been carrying on an inservice professional improvement type of training in which we have used resource people to do the training out in the State in sub-district meetings of agents. We had shifted from this pattern to one where the resource people instructed the district leaders (supervisors) who in turn give the instructions at sub-district meetings of agents. Many times they were supplemented in the sub-district meetings by the resource people, but they were responsible for the actual instructions.

The communications conference at Rock Eagle provided two important contributions:

1. It enabled us to train some district leaders and others who now are resource people.
2. It provided us with information which we had already deemed basic, but which we were dependent upon college personnel to provide us. Many times the college personnel was not familiar with the functioning of extension, consequently, the teachings could not as effectively be applied.

The system now is strengthening Extension Service in that the district leaders are recognized as teachers, as resource people on technical psychology in communications; consequently, their status is being raised and they are actually in a better position to do an effective job of evaluating the personnel in their district.

We find that this pattern of instruction has resulted in a rapid rate of adoption of the practices and procedures being taught.

Hanks: The team from Cornell that took part in the Michigan Training Program agreed at the outset that training for all extension personnel is important; that it should be accomplished through the usual administrative and functional channels and that it should be a continuous day-to-day undertaking.

As a team, we reported rather completely on our experiences at Kellogg Center to the directors and to "The Legitimizers." That small group arranged for us to report to assembled department heads, project leaders, and supervisors. As a team, our work was finished.

But each of us in our regular work has many opportunities to do training or to bring about training. Service on extension-wide committees, membership on departmental staffs, private conferences, writing for extension home organs are examples of ways our influence is felt.

We did not get labelled as trainers; no one had cause to think that their functions were being usurped. On the contrary we took opportunities to support and promote staff members who had contributions to make. We did this by throwing important assignments their way rather than importing talent. We made the manuals, visual aids, and special techniques available to them and helped them adapt them to their needs.

The big payoff came at the annual conference of all extension workers. The committee in charge planned for communications training but they did not call it that. More than 30 staff members, research extension, and resident instruction, cooperated. Three colleges were involved.

The conference stimulated interest. Now, and this is important in our view, requests are coming from individuals and groups for more training - in specific areas. The requests are coming through normal channels where they can be serviced and followed. Everyone with a contribution to make is willing to help, perhaps because they have been supported rather than undermined.

Every staff member is a trainer - and a trainee.

MEMBERSHIP AND WORK OF A TRAINING COMMITTEE
by
Harry A. Cosgriffe
State Training Leader, Extension Service
Montana State College

PROFESSIONAL IMPROVEMENT COMMITTEE.

A. Composition of Group.

1. Committee members.

- a. Two agricultural specialists.
- b. Two home economics specialists.
- c. State 4-H Club leader.
- d. County agent supervisor.
- e. Two home demonstration agents.
- f. Two county agents.
- g. Assistant State home demonstration leader (on study leave).
- h. State training leader.

2. Co-chairmen - Home economics and agricultural specialists.

B. Scope of Program of Professional Improvement Committee.

1. Director's committee.

- a. Deals with broad areas of professional improvement.
- b. Subcommittees - to indicate scope.

(1) Training subcommittee.

- (a) Development of total training program which is representative of needs and interests of all staff.
- (b) Undergraduate extension courses (develop).
- (c) Induction training program (formalized).
- (d) Job descriptions.
- (e) Communications training.
- (f) Stepping up participation at summer school.
- (g) Training counties (whether to set them up or not).
- (h) Evaluation.

(2) Rank and tenure subcommittee (system comparable to faculty system).

C. Length of Service of Committee.

1. No clear cut policy - agents generally for two years.
2. Meet four times a year for two days each time. Sub-committees as often as needed.

D. Process of Developing Training Program.

1. This year.
 - a. Circulated State staff.
 - b. Committee screened requests which were given final approval by supervisors and administrative staff.
 - c. Calendar prepared for 1957 (first time).
2. Next year.
 - a. More involvement of supervisors and agents in making determination. No clear cut answer on how to do this.

E. Responsibility of Various Members of Committee in Carrying Out the Program. Consider in Two Areas:

1. Excellent on specific committee assignments.
 - a. Real loyalty to committee.
2. To groups they represent - may not be enough feedback in getting ideas. (May fall down here.)

F. Sequence in Training (Progressive Training).

1. Development of programs in terms of experience. (Two-year worker vs. twenty-year worker.)
 - a. Problems occur in two areas.
 - (1) Subject matter (specialists giving training).
 - (2) Methods and concepts of program development and teaching.
 - b. The problem is how to meet the needs of people with differences in degree of experience.
 - (1) Answer. May be to make all staff members more conscious of this problem.
 - (2) Newer workers conference is part of the answer.

G. Problems Faced by Committee.

1. Feedback and getting ideas from segments they represent.
2. Developing training program more representative of all staff interest and needs.
3. Developing progressive training program - meet needs of different levels of experience.
4. Director recognizing recommendations - viewpoint of some, but probably a good thing since recommendations are better considered and developed.

H. Evaluating - Personnel Training.

1. Mostly subjective evaluation practiced.
2. The committee has raised a number of questions needing evaluation. Example - Field experience program vs. more adequate induction program.

RESEARCH IN THE FIELD OF EXTENSION
Notes taken on talk made by
Dr. James Duncan
Extension Specialist
University of Wisconsin

There has been considerable emphasis on research since the beginning of extension. The pioneers in extension recognized research as an important area of endeavor.

In recent years there has been much effort put on research in program development and in farm and home development. Both at the recent Green Lake conference and through the work of the North Central Committee on Extension Research, lists of topics for needed research have been made. These are too lengthy and too miscellaneous for discussion here. They do show, however, that extension leaders are alert to a broad range of problems needing research. A classification of them is difficult. The list shows there has been thinking about suitable research topics; the weakness is that groups making up these lists have not had time or put forth effort to identify most researchable topics and establish priorities. These lists give us direction but need further refining and identification.

Students coming into a master's or doctoral program have given little thought to possible projects in extension research or to methods of research. Graduate students must be interested in the problems on which they work but this does not mean that they should not be provided with a list of suggested topics that would provide helpful information on basic problems of extension.

There is need for various extension education graduate departments to design research projects which have common design so that the findings can lead to generalizations or principles.

Much needs to be done to provide thesis abstracts to other institutions having extension education programs. All theses being completed in the field of extension education should be abstracted and the abstract submitted to the Review of Extension Research.

Copies of the publications on extension research, "Suggested Areas for Research," available from the National Agricultural Extension Center for Advanced Study, University of Wisconsin, Madison 6, Wisconsin, and "Research in Extension," a report to the North Central Directors, March 27, 1957, available from Professor R. J. Penn, Agricultural Economics Department, University of Wisconsin, may be requested by conference participants.

EXTENSION EDUCATION AND THE GRADUATE SCHOOL

by

John W. McConnell
Dean, The Graduate School
Cornell University

In 1870 there were forty-four graduate students in the United States; in 1955 there were over two hundred and fifty thousand.

These statistics reflect tremendous changes which have taken place in American life. Above all, these statistics reflect the triumph of specialization. The graduate schools produce the scholars, scientists, and specialists upon whom the future development of our intellectual, scientific, and technological life depends. We cannot exist without specialists. Critics of our civilization and its educational institutions decry the trend toward specialization, but the trend continues. Harold W. Stokes comments:

"The great advances in technology and the arts from which we currently benefit are the work of specialists However desirable breadth in education may be, if it had to be obtained at the sacrifice of the competence of specialists, it would mean the sacrifice of the greater for the lesser value. Specialization is implicit in our search for knowledge; the greater the volume of knowledge, the more complex it becomes..... the more devotion it demands of those who would master and manage it."

—Stoke JHE June '54

The graduate schools have contributed to the great technical development of American life in two ways, (1) by expanding knowledge through research, and (2) by producing a steady stream of well-trained personnel for education, agriculture, industry, and government. Research continues to be an important part of the life of a graduate school. Graduate study in any university would wither and die if it were not nourished by abundant research. However, the education of scholars, scientists, and specialists is the primary function of the graduate school. Despite the rapid growth of inservice training, industry, government and a host of other institutions in our society look to graduate schools as the primary source of trained leadership. "The basic and unique responsibility of the graduate schools must be to supply a continuing flow of capable and well-trained people into the specialties on which our..... society depends."

With such a critical and important role to perform, we ought to have in mind a clear picture of the nature of graduate study. But we do not have such a clear picture. Since its beginning in the United States, about 1850, graduate education has been in a continual process of transition. A

purely arts program in the first decades of the nineteenth century was forced to give ground to a growing demand for education in the sciences. More recently, graduate schools of arts and sciences have been forced to make room for graduate education in the professions; and now the incessant demand for technically trained specialists is forcing additional modifications in the conception of graduate education. To some extent the graduate schools of the nation are in the grip of the dead hand of the past. Change in university curricula is a slow and very painful process. Conflicts between the defenders of the status quo and the advocates of new and challenging educational programs are part of the continuous performance on university campuses. Nevertheless, the objectives of graduate education apparently have universal acceptance. Dean Stoke has stated these objectives very clearly.

"First it is the purpose of graduate work to give the student a mastery of substantial body of precise and specialized knowledge. The important word here is "mastery"; he must be something more than the passive possessor of information. He must know where knowledge in his field comes from, how it is put together, and how it is manipulated. Second, graduate study seeks to provide the student with an understanding of the special techniques and devices by which knowledge in his field is accumulated and managed. The successful graduate student must know the technical requirements in his field. Third, graduate study should arouse in the student a sense of responsibility for the field of scholarship with which he identifies himself. The scholar who does not continue to be a scholar has abandoned this responsibility. The true scholar must see himself as a trustee for a field of knowledge..... If he does not preserve and add to the legacy with which he has been entrusted, it disappears."

The purpose of graduate study at Cornell, as stated in one of our publications, adds one other objective - "education for a general cultural development and understanding." In this era of intense specialization, there is still need for the ability to see life as a whole in addition to seeing separate pieces through a microscope. The interrelations of one specialty with another are usually as important as an intensive knowledge of the specialty.

The increasing demand for technically trained specialists is having an important impact on our conceptions of graduate study. The demands for technical education may be viewed as a threat, as a challenge, or as an opportunity - depending upon whether you are looking backward or forward. Many of us, I am afraid, are as R. H. Tawney put it, "walking reluctantly backward into the future."

The challenge of technical and professional training to the graduate school is substantially different at the master's degree level than at the Ph.D. level.

Let us look at the master's degree level for a moment. What are the characteristics of the proposals for professional masters' degrees?

1. Course work alone is the substance of the degree requirement. Since much of the course work is taken piecemeal - a course now and a course again - the idea of residence in a university community is abandoned.
2. The thesis is eliminated. It is believed to be an academic exercise inappropriate for those doing practical work.
3. Academic excellence is often subordinated to the skill in performing a practical operation or to the personal qualifications essential to doing the job.
4. Acquisition of comprehensive knowledge is often required to give place to learning techniques.

To a large extent, the work proposed for a master's degree is simply an extension of undergraduate course work.

May I make my point clear. This type of program may meet the needs of professional people much better than the traditional master's degree program. If the need is for advanced information and up-to-date know-how, it is obvious that requirements of the older master's program are inappropriate. But the question may well be asked, is this graduate work? Should a graduate school adopt this kind of professional training as its own child and bless it and make it legitimate by awarding a master's degree?

There is pressure on the master's degree in another direction. Dr. Faust, Vice President of the Ford Foundation and Director of the Fund for the Advancement of Education, has been giving serious attention to the need for a larger number of college teachers. Traditionally, the college teacher has considered the Ph.D. a card of admission to the teaching profession. But students spend a minimum of three years in getting the doctor's degree. More often they spend four, five, or six years at a university in pursuit of this elusive sheepskin. Dr. Faust suggests that graduate schools stiffen the requirements for the master's degree so that holders of this degree will be acceptable as teachers by first rank liberal arts colleges. Yale and Harvard a few months ago announced the introduction of a new degree - the Master of Arts degree in Teaching. It is intended that this will be a first rate degree - not a consolation prize to those who fail the Ph.D.

It seems to me, however, that the schizophrenic existence of graduate deans would become even more so if a single degree were awarded for vastly different work, as represented by professional training on the one hand and "souped-up" master's work for teachers on the other. Some universities have attempted to meet this diversification by the use of professional degrees. Cornell, for example, offers not only the traditional M.A. and M.S., administered as general degrees by the Graduate School, but also more than a dozen professional master's degrees, administered by separate colleges. Each of the professional degrees is different - but generally speaking, they emphasize prescribed course work and comprehensive examinations, and do not require a thesis or foreign language. I do not attempt to evaluate these programs according to relative ease or difficulty of the professoral training offered, for standards of competence are set by the professionals, nor do I evaluate them in relation to their appropriateness for the professions toward which they are directed.

I do feel that the graduate school, if it provides a home for professional education beyond the bachelor's level, has one important obligation - that is to assure itself that holders of these professional degrees are educated men and women and not merely nice people with a bag of gadgets. Since the graduate school is not in a position to prescribe the content of a professional course of study, the simplest way to do this is by a careful admissions procedure. If a professional program is built upon a base of solid undergraduate achievement, I am well satisfied. On the other hand, if those who offer the professional degree want to admit every lame duck who walks in the door offering excuses rather than a good college record, then I think the graduate school should protest vigorously.

The Ph.D. degree is another matter. This degree is the recognized ensign of scholarship, research accomplishment, and the ability to acquire, assimilate and communicate knowledge. The purposes of graduate study stated previously apply particularly to Ph.D. work - (1) mastery of the subject, (2) training in independent research, (3) education for general cultural development and understanding, (4) training for a particular profession or vocation.

By contrast with the history of master's degree work, there is no noticeable tendency to multiply the number of professional doctorates. The Ph.D. is supreme - it wears an Ivy mantle. No professional degree appears to hold the same attraction for professional groups. The pressure has been in the direction of revising the Ph.D. requirements to accommodate the needs and abilities of those seeking professional training beyond the master's degree level. There is pressure to modify the concept of residence by acceptance of a certain amount of professional or technical employment as residence. It is argued that facilities for research, or opportunities for experience are superior in an actual working situation to those on a university campus. I am sure this is

quite true, but the purpose of residence on the campus is not the practical experience of the student but the opportunity to live for a time in the company of mature scholars to whom the independent pursuit of knowledge is of prime importance. The concept of residence is challenged also by efforts to equate residence with part time extramural work. It is also challenged by the efforts to confine study and thesis research to the time limits determined by the student's leave from paid employment.

The Ph.D. language requirement also receives its share of criticism from those interested in professional training. A professional person on occupational leave to get an advanced degree sees the time spent on language study as pure waste. It is time which, in his opinion, could be spent more profitably in acquiring additional information about his field or on thesis research. However, I have an idea that the increasing number of opportunities for professional people to work abroad, is dulling the edge of this criticism of the language requirement generally, changing it into a criticism of specific aspects of the language requirement such as a reading knowledge vs. ability to speak and understand.

The thesis is also challenged. Professional people are likely to substitute a practical plan of something or other for a piece of independent investigation. To the practitioner and the administrator the ability to carry through a research effort is of much less importance as a training device than a demonstration of ability to analyze a problem, plan a program and coordinate numerous diverse agencies in a practical solution.

Finally, when one considers the training of a professional worker in a given field, the ideal process of developing the program of study for a student is often reversed. In professional training one inevitably looks at the job to be performed and what is required to do it most effectively. A course of study is then developed to make sure that the necessary knowledge and skills are acquired. The usual result is a core curriculum with a more or less liberal choice of electives. On the other hand, the procedure for a non-professional doctoral candidate is ideally quite different. His individual needs and interests become the basis of his program - the program may consist entirely of course work or no course work at all. His research, again ideally, is an independently conceived and independently executed piece of research, and when it has been completed, he defends it as his own before a faculty committee.

The changes which professional training is demanding of the Ph.D. program are significant and resistance to these changes is strong - in some instances bitter. At this juncture, I think it quite uncertain whether the Ph.D. will be modified to permit professional training as an accepted program of study or whether professional personnel will find it more desirable to establish a professional doctor's degree with programs cut to meet the specific needs of the profession.

With this summary description of the problems of professional training in graduate schools, I would like to explore a few ideas on the development of an effective graduate program in extension education. May I assure you that I am in complete agreement with you on the need for more and better adult education and extension work in the United States. There is no greater educational vacuum in America than the adult years. General belief that education stops with the end of formal education is tragic.

I see no serious problems in providing opportunity for extension education at the master's degree level. Professional degrees already dominate the field. They carry sufficient professional status to be quite acceptable within as well as outside a university circle. It remains only for extension specialists themselves to devise the very best curriculum possible to suit the needs of the profession. I will sound only two words of caution. (1) If the professional master's program is to be a preliminary degree leading into the Ph.D. program, it should include some arrangement for anticipating future Ph.D. requirements - for example, a thesis might be an option elected by those anticipating further graduate study, or basic courses in subject matter might be taken on an elective basis. (2) The professional master's curriculum understandably will be full of professional information and skill development; yet the purposes of the extension service - dealing with the home, the family, and the farm as a business enterprise - assume an unusual breadth of interest and competence on the part of the extension teacher. Where is this breadth coming from? It seems to me that some solid liberal arts work as an undergraduate is essential. If a student does not present a satisfactory liberal arts background upon admission to graduate study then the master's work should include such courses on a non-credit basis.

Graduate work in extension education at the doctor's level requires closer study. The alternative paths are not so clearly marked as at the master's level. There are two questions which might be asked as a means of finding out how extension education fits into graduate work at the doctor's level.

1. How can graduate training of extension teachers be shaped to fit the accepted standards of graduate study?
2. What kind of education and training is most appropriate for extension teachers in the light of the kind of people you want them to be and the skills you want them to have?

I am not sure which of these questions is the more important. An answer to the first question means an acceptance of the standards and purposes of Ph.D. work as the standards and purposes of extension teacher education.

1. Mastery of the subject.
2. Training in independent research.
3. Education for general cultural development and understanding.
4. Training for a particular profession.

In my opinion (and since I am not an extension teacher, I hesitate to offer an opinion), if extension education is to increase in scope and effectiveness, the profession will need at least a few people trained along these lines - it will need careful students with imagination, with appreciation of the logic and methods of science, with an ability to fill students with an enthusiasm for the subject of extension education, and with an ability to see the subject of extension education in its interrelationships with other disciplines in natural and social science and humanities. In short, extension education will need some people with the attributes of real scholars.

The answer to the second question will lead inevitably to a professional curriculum of a high order designed to meet the needs of the profession. The standards and purposes of the Ph.D. will certainly not be appropriate. It would be a mistake, as I see it, to cut and fit your professional needs generally to meet Ph.D. requirements. The professional doctorate program should be for practitioners - and practitioners do not need the same diet as scholars. What professional doctorate (the doctor of education or other) might serve the best interests of extension teachers is a question I can't answer. Undoubtedly most students with the time and money to study for a doctor's degree will think first of the Ph.D. At this point, able counselling and a stiff backbone will be essential if the professional degree is to achieve real stature. People should study for the professional degree because they want to be practitioners rather than scholars, not because they are less capable or less industrious than the Ph.D. curriculum requires.

Finally, I want to comment on one of the great mysteries of education - it applies to resident as well as extension education - the mystery is what makes a good teacher? And if you really knew what made a good teacher, could you produce such a teacher through graduate study? I notice from your own Knoxville conference report that this was mentioned frequently as an important research topic. I am sure it is. Empirically, I am about to conclude that the content of a curriculum per se is much less important in producing good teachers than the latitude and encouragement which a curriculum affords the student for the development of individual capacities - this development, of course, fostered and matured by contact with really great personalities who are highly motivated toward the welfare of their students and the challenge of their own professions.

Even in our best graduate schools we can't go back to Mark Hopkins and his log - and I don't propose that we do this. But the finest graduate education I have ever observed is built on the principles of old fashioned apprenticeship. Here the master craftsman assumed personal responsibility for his apprentice. He taught him not only his skill, but the manners of a gentleman and the ethical standards of his craft, and from time to time the attentive master struck in his boy the spark of genius and fanned the flame of imagination to the benefit of the whole world. This is graduate education at its best, and it can be accomplished regardless of the particular degree level the program may bear.

THE ROLE OF COURSE WORK IN GRADUATE STUDY

by

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No really satisfactory approach to the subject of graduate courses can be made without first considering what the general goals of graduate study are and should be. There is, I think, a large misunderstanding of the purpose of graduate study, particularly in the minds of graduate students. Nowhere is this more conspicuous than in the young graduate student's attitude toward course work.

Courses are little packages of information - prepared and transmitted by the teacher to the student. They represent a distillation by the teacher of significant facts and ideas from the large body of knowledge accumulated throughout past time by the combined efforts of many scholarly minds. We might also consider a course as a brief intellectual journey through some selected segment of knowledge carefully guided and supervised by the teacher. The purpose of a course, however we may define it, is to transmit information from teacher to the student. The student tries to absorb the information presented and to store it away in his mind until the time comes when he must demonstrate his competency by regurgitating the material in as nearly intact a state as possible.

Experience has shown that a course is a reasonably efficient means of transmitting information. The process often makes heavy demands upon the teacher since he must assume the responsibility of selecting the most important and significant facts from a very large body of knowledge. Furthermore, the teacher must present these facts in an attractive and logical manner so they may be absorbed with minimum discomfort and effort by the student.

Students like courses since they appear to offer a relatively easy way of acquiring information. True, some courses are more difficult than others, either because the journey covers more rugged terrain or because the voyage is longer. Even so, the college course is a much simpler means of covering new ground than self-directed explorations would represent.

Through the four years of undergraduate work the college student has become thoroughly familiar with the course system. Usually he adapts himself to the situation very well and his role as a student becomes that of a receptor of the facts and ideas of others. If he is a good student these bits of information are indexed and stored away in his mind to be reproduced later upon demand.

On entering the graduate school most students are surprised to find that rather stringent limits are placed upon the amount of course work they may take. With a desire for further information whetted by undergraduate experience, they are dismayed at this new attitude toward course work. They cannot understand why, with four years of experience, they should not be able to take more, rather than less, course work than was permitted in undergraduate days. It is hard for them to realize that the purpose of graduate study is not directed solely to increasing their fund of information. No longer should they depend upon teachers to select and digest the significant and the important from the great mass of facts and observations that have been accumulated. They must learn to roll up their sleeves and to tackle this task themselves.

Graduate education means, or should mean, instruction in the methods of acquiring knowledge, training in extracting meaning from facts and experience in the discipline of self-instruction. Someone has described the difference between undergraduate and graduate training by saying that undergraduate instruction consists largely in "pumping information in" while graduate training consists in "drawing out the intellectual resources of the mind." This distinction is critical, for graduate degrees should never represent merely another year or two of course work - another year or two of the same pattern of passively absorbing facts and ideas which become so familiar in the undergraduate days. Graduate study prepares the mind for intellectual independence - it makes the first real demands upon individual resourcefulness and originality. Graduate students must not only know facts but they must also learn the significance of facts as material for the construction of concepts and generalizations.

Now that we are on the Cornell University campus it is particularly appropriate for me to refer to a statement in the graduate catalog of Cornell, to which I have had frequent occasion to refer. This statement refers to the policy here of refusing to grant more than one master's degree. Sometimes a student, after taking a master's degree in one department, desires to take a second master's degree in another department. This Cornell University does not permit. They regard the master's degree as a recognition of the initial phase of training in the method of scholarly work and, having accomplished this once, there is no point in doing it again. This is clear recognition of the fundamental issue that graduate training is not designed primarily to increase the student's store of facts but rather to develop his ability to interpret the significance of facts and to acquire some familiarity with the methods through which knowledge is acquired.

Graduate students are like pioneers - facing for the first time the tough struggle with facts and observations; seeking to wrest meaning from them and to gain confidence in their mastery of the methods through which knowledge is acquired. It was the great philosopher Alfred North

Whitehead, I think, who said that knowledge does not keep any better than fish and that old truths must come to students as if they were just drawn from the sea with all the freshness of their immediate importance. The discovery of truth, whether old or new, is an exhilarating adventure which must be experienced to be appreciated. It is one of the major purposes of graduate study to see that such adventures are frequently encountered and thoroughly understood.

It is clear, I am sure, to all thoughtful persons that education must do more than enrich the memory. Somewhere and somehow the resources of the mind must be unlocked and brought to grip with problems of the present. Somewhere and somehow superior minds must be trained to use the resources of libraries, of laboratories, to develop the spirit of inquiry and to trace the implications of ideas. This is the role of graduate training.

The sum total of knowledge, even in restricted and specialized fields, is now so large that there is constant pressure to multiply the course offerings of college and university curricula. This is particularly true of the graduate field where course work seems to offer an efficient means of compressing much information into the limited time available. One consequence of this plethora of courses is that the student's time is so monopolized in assimilating facts that there is little time for reflection for the intellectual syntheses of ideas or for the exploration of unknown territory that is so essential a part of graduate training.

College faculty members often contribute to this unhappy situation. Their perspectives may be warped by the enthusiasm they have for their own intellectual interests. This frequently leads them to offer courses in their specialties - courses which students are urged to take, thus eroding more and more at the time which the student must have to develop his own intellectual independence.

Much graduate study in America is characterized by an overemphasis on course work, on building up in the student large reservoirs of factual information rather than training the student in the methods of self-instruction. In Europe and England the situation is quite the reverse. Here the graduate student is assigned little or no course work and left very much to depend upon his own resources. This method is certainly less efficient than ours so far as the accumulation of facts is concerned but it is certainly more successful in developing intellectual responsibility and independence. It may not be entirely accidental, therefore, that Americans seem to have a genius for exploiting and developing ideas but appear to lack an equal capacity for producing them.

Perhaps a more ideal system of advanced education should lie between these two extremes. Perhaps we should begin to erect barriers to check the multiplication of courses and take steps to reduce the amount of time devoted to course work while the Europeans might move in the opposite direction.

It should not be inferred from what I have been saying that I think courses are undesirable as a means of instruction. This was not my intention, for I think that courses properly prepared and presented are essential. My concern stems from what seems to be a growing tendency to make course work the only means, or certainly the larger portion, of graduate instruction. This I do consider most unwise and a serious handicap to the graduate student. It is not the way to develop competence as an original thinker, or to produce men and women who know how to evaluate critically the ideas of others, who know how to find and explore the sources of knowledge or who can examine observations and data with sufficient discernment to extract the substance and relegate the inconsequential to its proper place.

The meaning of graduate study has changed substantially in the past thirty or forty years. It is no longer restricted to persons whose superior intellectual attainments place them in the upper 10 or 15 percent of their age groups. It no longer guarantees scholarly achievement in the advanced levels of thought in some segment of knowledge. It may mean these things but it also may mean little more than another year or two of guided, supervised study. I have been disturbed recently to find that some of our major universities are offering graduate credit for the successful completion by high school teachers of the introductory courses in science. True, the graduate credit may only be applied to a master's degree in science teaching and to no other degree; true, the elementary college courses in science are often those needed by high school teachers of science, yet it still is difficult to rationalize a procedure which permits courses at the college freshman level to be considered postgraduate work when taken by special groups. The great range in degree requirements now associated with the master's degree is reflected also in the large number of kinds of master's degrees. I believe a survey made not many years ago showed that there were eighty-five different kinds of master's degrees offered by the colleges and universities in the American Association alone. The master's degree has lost so much of its original luster that it is now almost a badge of incompetence when granted by some of our better known universities. In these institutions the master's degree, in the sciences at least, is often granted to those students who lack the competence to complete the requirements for the doctorate. It has become an escape hatch for the ill qualified.

But let me not paint too dark a picture. I think the master's degree still has a place in our educational system. To hold this place, colleges and universities must soon find other titles to represent achievement of postgraduate students which is not genuinely graduate work. We must not force all students who desire training beyond the baccalaureate into master's degree programs. It is not wise nor necessary that we try to make the master's degree so all embracing in character,

so completely flexible in requirements as to identify the work of all students who return to college for additional study after completing their bachelor's degrees.

It is important that additional training be provided by colleges and universities for persons who seek to improve their professional competence by additional study. This is a most commendable motive and should receive every possible encouragement. The county agent who, after leaving college, has had several years of practical experience, often finds that he needs additional information to meet the requirements of his job. Similarly, the high school teacher often finds demands placed upon him to teach subjects in which he feels inadequately prepared. These people turn to the colleges and universities for the information they need. There is no way in which they can obtain this information without entering the graduate school. Graduate programs leading to degrees may not and probably should not represent this kind of training; hence the student is often pressed into programs ill suited to his needs. The basic objectives of the traditional graduate programs are warped to meet the needs of the student who seeks factual information alone. This warping is not helpful to the traditional graduate program nor is it always in the best interests of the student.

What is needed is a kind of postgraduate instruction designed to meet the specific needs of persons who are after information rather than graduate training. This program need not be administered by the graduate school, though it could well be handled there. It should not be recognized, however, with the traditional graduate degree. Perhaps new degree designations, a special diploma or certificate would satisfy the demands of the situation.

So far very little has been said about the characteristics of good graduate courses - the subject I have been asked to discuss. Perhaps it is clear, however, that courses for graduate students should not follow the pattern common in undergraduate work. If we were to list some of these differences the following points would certainly appear:

1. A graduate course should be planned so as to stimulate substantial work in the subject by the student. It is reasonable to expect the student to read well beyond the immediate requirements of the course work itself.
2. The course should offer some opportunity for critical appraisal by the student of the ideas of the teacher and others referred to in the development of the subject of the course. Preferably this should take the form of critical reviews of original papers, presented and defended either in writing or orally.

3. The course should offer opportunity for written work with a requirement of a reasonably high quality of lucidity and logic.
4. Courses to be genuinely graduate in character should have substantial prerequisites. It is not enough to find a statement such as "permission of the instructor" given in the catalog where prerequisites are listed. Instructors are often more generous and kindhearted than deans and may yield to student requests when there should be no yielding. Whenever students ill qualified by the lack of preparatory work become members of graduate courses, there is inevitably a tendency to bring downward the levels of class achievement. This is unfortunate in undergraduate work but it can be much more serious in graduate study.
5. Graduate courses make heavy demands upon the time of the teacher far more than that required by most undergraduate courses. One eminent scientist that I knew well said, "In our elementary courses we tell the truth, but not all of it." In graduate courses this is not enough. The whole story, present and past, must be told with a dedication to accuracy that requires many hours of patient and thorough study of original sources. This is by way of saying that courses of truly graduate character cannot be taught as a part of a fifteen hour teaching load. Men given responsibility for advanced course work must be protected from the pressures of other duties - courses, excessive committee assignments, too many graduate students, too many non-academic tasks, and so on. Graduate study is preparation for scholarship and courses which represent anything less than examples of high scholarly purpose are not acceptable.

Some wag has suggested that an appropriate ceremony at every commencement would be the burning, by each instructor, of his lecture notes. The purpose, of course, would be to enforce a fresh examination of source material each time a course is given. Were such a practice to be adopted, I am sure that many benefits would accrue both to student and instructor!

Let me recapitulate briefly what I have been trying to say.

1. Traditionally, graduate work is not designed merely to increase the student's fund of factual information. Rather, it has the purpose of developing the spirit of inquiry, of training in critical evaluation of ideas and experience in the methods through which knowledge is acquired.

2. There has been in recent years a steadily growing pressure for a different kind of advanced study - a study frankly designed to provide information of specific and often restricted kinds. This has led to an increase in demands for course work and to the dilution or elimination from degree requirements of thesis and language requirements. In some instances graduate degrees are awarded for the completion of a rather inflexible list of specific courses.
3. In an effort to meet both kinds of advanced study programs, graduate degrees have multiplied in number and kind until now the title "master's degree" has lost much meaning and in some departments in well known universities is used only to dismiss students considered incompetent for doctoral work.
4. If the master's degree is to regain stature and be restored to dignity as a symbol for the completion of the initial phase of genuine graduate study, requirements for the degree must reflect this change.
5. There is a place in advanced study for the acquisition of factual information alone but work oriented for this purpose should not be designated by the traditional graduate degrees.

In a talk recently made in Washington, Dr. Arthur Adams commented on the rather surprising fact that the great changes in education in this country had been forced upon the colleges and universities by outside pressure. He was referring, I think, to the Morrill Act which established the Land-Grant College and of the great reluctance with which work in science was accepted by colleges and universities as a part of college curricula. It is surprising that institutions of higher learning, whose faculties are working at the boundaries of knowledge, should be so conservative in matters of educational policy. Perhaps this is because they feel so keenly the tremendous responsibility in their hands as they guide the preparation of the next generation for scholarly work. Yet in a world that is changing so completely and with such bewildering speed, we cannot afford to be complacent about higher education.

Graduate schools must soon reach agreement as to whether the master's degree is to re-acquire the luster it once possessed by insisting upon requirements that reflect its purpose or whether it is to be abandoned. Graduate schools must soon decide whether new programs with new and different degree titles can be developed to recognize achievement on the part of those who seek information alone, or whether work of their kind is a proper function for agencies other than the graduate school.

Someone has compared the process of education with the sowing of a crop - it is not the labor involved in the planting that is important but, rather, the result of the effort. Nowhere is this analogy more appropriate than in science education. The seeds we plant may be tiny but in a favorable environment the consequences of the act may alter the whole aspect of the landscape.

CRITERIA FOR GRADUATE COURSES IN EXTENSION EDUCATION

by

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While the topic might suggest quibbling over academic details, I assure you that the main objective is to achieve the very practical purpose of having graduate courses that are worthy of the name graduate. Usually a first step is to explain or define the key word or words in the topic being discussed. In this instance it is a unit of instruction, namely, the graduate course. After discussing a definition with a number of people I have about come to the conclusion that a completely satisfactory definition is not possible, and any definition should be preceded by words of explanation. One of my colleagues from the Department of Physics commented: "I know a great deal more about physics than I do about graduate courses, and I can't define physics." What he meant was that there are many facets to a graduate course and all must be considered.

An attempt to name the components of a graduate course is bound to overlook some that are important. Some of these essential parts are discussed below. Evaluation of each is important in efforts to upgrade graduate instruction. Although my assigned topic refers to graduate courses in extension education, evaluation and standards of judging should be uniform for all courses taught at the graduate level. However, some special situations arise in connection with the offering of graduate courses in extension education. Reference will be made to some of these problems. The following are some essential components of graduate courses and some standards for judging them.

1. The Teacher. The instructor appearing first in the list is in his rightful position, for regardless of the excellence of all other factors, unless the instructor is capable, the courses will be unsuccessful. Conversely, a brilliant teacher can accomplish results even if the other elements fail to come up to the specifications desired. Evaluation of all the elements that go into a graduate course is difficult but nowhere are the difficulties greater than in teacher evaluation. We come face to face with institutional and departmental policies which make the environment in which the teacher operates. All have a bearing on his effectiveness as a teacher. These are at best only partially controlled by the group in the institution which must pass on the faculty member's adequacy to teach a graduate course. For want of better measuring sticks, graduate councils must rely chiefly on the faculty data sheet and faith in the department heads who make the recommendations.

The graduate faculty member should possess the spirit of research and have a research interest that is adequate for the successful teaching of advanced courses. Perhaps the best evidence of this interest is the instructor's own publication record. The instructor should possess competence in a field of specialization, have a comprehension of subject matter in broader fields of knowledge, and be cognizant of the fundamentals of good teaching methods.

At Kansas State College for a good many years we have asked department heads to prepare a written statement providing data on the persons they recommend for the graduate faculty. I have made copies of a sample of one of these letters recommending a faculty member. I feel that this information is lacking in that it does not give information about the person's knowledge of teaching methods.

2. The Student. The next element in the graduate course is the very important student, the reason for all our efforts. Again the over-all institutional policy has an important part in placing the right student in the right classes. The process of selection begins with the institutional policy of admission, continues with departmental curriculum requirements, and concludes by strict adherence to the necessary prerequisites for each graduate course.

Three important words in fitting a student for a graduate course are information, competence, and prerequisites. (a) Information: a great service would be performed if for every graduate course taught there was a brief outline readily available to every student. (b) Competence: with the increasingly heavy demands on our staff members, it is a disservice to the staff member and the student to permit students to enroll in an advanced course when they have demonstrated incompetency in a less advanced course. (c) Prerequisites: frustration and unhappiness always result when a student is permitted to enroll in a course when he does not have the necessary background of training. Students in these situations, regardless of how able they may be, also tend to retard the progress of the other members of the class.

3. The Library and Plant and Equipment Resources. Evaluation of these resources at fairly frequent intervals on an institution-wide basis is imperative. The way in which the individual course ties in to get maximum benefit from these resources requires constant vigilance on the part of the instructor. Some of the extension education graduate courses are conveniently given in extension study centers, in short sessions, or as workshops. In this type of instruction, physical facilities may be inadequate. For that reason, administrators of these programs need to be constantly on the alert to provide the necessary library and other material resources.

4. The Content of the Course. To achieve high level status, the content must be something new and challenging to the student, making use of prerequisite courses as a foundation but never duplicating any part of them. Evaluation of course content, though difficult, can be achieved by close scrutiny of prerequisites, of topical outlines, of texts and readings required.

For lack of a better measuring stick, graduate councils must rely on some kind of course analysis sheet. This can be done by the use of lengthy questionnaires or by the selection of what are considered the more significant characteristics of a course. At Kansas State College only recently we have experimented with a plan for providing information on graduate courses.

5. The Position of the Course in Relation to Other Courses, to the Student's Program of Study, and to the Overall Institutional Framework. Difficulties in defining a graduate course per se may point to a truism that any course standing alone does not possess the characteristics of graduate work. The individual course is only a small part of graduate study. Integration is indispensable. It means the combination of courses, research, seminars, and association with faculty members and fellow students within the institutional framework of libraries, laboratories, and other less tangible but very important attributes of the college community. Graduate training in an advanced degree program is sound only if a substantial part of this training is on campus over a period of time long enough to make a permanent change in the habits of thought and action of the student. It is in this area that graduate courses in extension education face hazards because, ordinarily, it is easier for extension workers to plan programs of training which combine short periods of study with inservice employment.

Only in a situation where the components listed above can be given a high rating, do we have the essentials of graduate courses.

After these remarks on the elements of a graduate course, one might be charged with cowardice if he did not attempt to offer a definition. With a real sense of timidity, I suggest the following:

A graduate course is a unit of instruction with the prerequisite of previous formal training which requires teacher and students to exercise individual judgment in the reassessment of knowledge as the subject matter is developed, both intensively and extensively.

But one might ask if this does not also describe an undergraduate course. The answer would need to be partially in the affirmative, with the distinction that by comparison the undergraduate course places much greater emphasis on enabling the student to assimilate knowledge which has been acquired by many others before him.

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